THE SCHOOL REVIEW
A JOURNAL OF SECONDARY EDUCATION

VOLUME XXV NOVEMBER 1917 NUMBER 9

A STATISTICAL STUDY OF THE SCHOLASTIC RECORDS OF 404 JUNIOR AND NON-JUNIOR HIGH-SCHOOL STUDENTS

PAUL CLIFFORD STETSON
South High School, Grand Rapids, Michigan

Assuming the contention to be sustained by the statistics and diagrams presented[1] that the junior high school in Grand Rapids has been so organized and administered as to bridge over quite effectively the "gap" between the seventh, eighth, and ninth grades, that it retains an increasing number of boys in the school, and that it is the policy to increase steadily the number of students in the junior high schools as added facilities are offered, the very pertinent question arises whether the intermediate schools are successful in preparing their students to perform the scholastic work of the senior high schools. This problem of a justification for the new type of organization becomes increasingly important in view of the findings of the Grand Rapids school survey about the cost of the junior high school from the point of view of instruction in these schools as compared with the cost under the traditional type of organization. In this survey Professor Rugg found that it cost about $11.00 to conduct a seventh grade in a traditional school and about $19.00 in the junior high school, or a difference of $8.00; and that it cost about $12.00 for the eighth grade under

[1] Refers to chaps. i and ii of a Master's thesis. This article is adapted from chap. iii.

the old plan and nearly $20.00 under the new, or a difference of $8.00.[1]

Restated in terms of the cost the problem is: In view of the fact that the instruction costs more under the junior high-school plan of organization than under the old scheme, can the justification of this added expense be found in the increased ability of the intermediate-school pupils to perform the work of the senior high school? That is, does the plan of departmental teaching have results which "carry over" in form of better scholastic work in the senior school? It is not suggested that this is the only way in which to measure the work of the junior high school, nor that the entire justification rests with the findings of such a survey, but merely that it offers a medium through which some valuable statistics may be secured and some precise measurements made.

In order to make this study of the intermediate schools in this city, the records of 404 students who were graduated from the Central and Union high schools in 1916 were compiled. One half of the students had had their preparatory training in the traditional elementary school, and one half under the junior high-school type of organization. The graduates of 1916 were chosen for several reasons. In the first place, those who had had the intermediate-school training would have had three years under the departmental teaching; in the second place, it was the first year that a class trained in the junior high school had had time to complete the senior high school; and, again, it represented the end of the first five years of the existence of the newer type of schools. The pupils who were chosen represented, as far as possible, no particular section of the city, but took in all parts of the school system; that is, the students chosen do not represent a selected lot, except in so far as any high-school graduates are selected. All of the records studied were of graduates of the two high schools. This fact, of course, eliminates certain types and makes the problem less complicated. One hundred and twenty of the students whose records were taken were graduates of the Union School. This high school is situated on the west side of the city, and its students come largely from the homes of the so-called "middle" and

[1] *Grand Rapids School Survey* (1916), pp. 432–38.

industrial class, while the Central High School, although all classes are represented in it as in any large high school, draws from what are commonly known as the better residential portions of the city.

After the records had been selected, the entire number was rearranged so that the two groups, except in the matter of preparation, would be comparable. All sections of the city are represented in both groups. Following the choosing of the 404 cards, the record of each was traced back to the sixth grade. This, it was felt, furnished a common starting-ground. In this grade, all would have received the same kind of instruction under the same plan of organization. The record of each was then carried forward through the twelfth grade. Each student's report represents, then, a study of seven years of his public-school training.

The subjects of English and mathematics were chosen because they are the two constants of the curriculum. Three years of English and two years of mathematics are required here for graduation from the senior high school, and in the junior high school all are required to take those subjects. This is also true, of course, in the sixth grade.

The last half of each year was taken as a basis of measurement because the assumption was made that in this last half-year the work begun in the first was completed; also, because no mid-year classes are graduated from the senior high school. In the system in use here, 6-2, 7-2, 8-2, etc., refer to the second half of the grade indicated.

In the accompanying tables the frequency distribution was charted for Grade 6-2 as the period when all the pupils finished the work which it is assumed they had under a common form of organization; 7-2 as the grade when they had finished their first year under a separate plan of organization; 9-2 as the time when the junior high-school groups were through with their intermediate-school training, and the non-junior students had finished their first year in the ninth grade and were ready for the senior work; and 12-2 as the time when each had had three years of senior high-school training.

In Grand Rapids, a mark between 70 and 75 is called a "condition" and below 70 "failed." This table indicates that there were

more failures throughout in the non-junior high-school group than in the junior. In the seven grades, 39 of the junior group were below passing, 20 having conditions and 19 failing. For the same grades in the non-junior group, there were 56 who fell below 75 per cent, 29 having conditions and 27 failing outright. The distribution of this grade is important and interesting. The median

TABLE I

THE DISTRIBUTION OF EACH GROUP IN ENGLISH IN GRADES 6-2 TO 12-2 INCLUSIVE

CLASS INTERVALS	GRADES						
	6-2	7-2	8-2	9-2	10-2	11-2	12-2
	Junior High-School Group						
95–100	42	33	38	23	19	15	12
90– 94.99	6	17	54	40	25	23	19
85– 89.99	65	72	54	62	53	53	45
80– 84.99	54	54	44	52	71	78	41
75– 79.99	1	3	5	23	13	18	7
70– 74.99	4	.....	1	1	5	9	.....
65– 69.99	1	2	.....	.....	9	2	1
60– 64.99	2	1	.....	.....	1	.....	.....
	Non-Junior High-School Group						
95–100	29	30	43	19	19	19	10
90– 94.99	6	10	9	32	22	13	14
85– 89.99	80	77	91	67	44	47	47
80– 84.99	58	66	51	59	83	84	41
75– 79.99	5	3	1	16	18	19	6
70– 74.99	5	.....	4	6	5	8	1
65– 69.99	2	7	.....	2	5	8	.....
60– 64.99	3	.....	.....	.....	.....	.....	.....

of the junior high-school group is 86.96 per cent, and of the non-junior group 86.30 per cent. This in itself indicates that there is a remarkable similarity in the dispersion of the groups. It is at once evident that we have two groups which are comparable from the standpoint of distribution around the median.

When the two groups have finished their 7-2 work, we find the distribution practically unchanged in its essential features. In the junior high-school group, there are 3 who fall below passing, all of them being failures. In the non-junior high-school group, there are 7 who fall below 75 per cent, all of them failures. The

median for the intermediate group is 87.15 per cent and for the non-intermediate 86.29 per cent. Both of the medians fall in the class interval 85–89.99 per cent, as do the medians for the 6-2. The difference here is not, however, in any sense large, being 33 for one and 30 for the other. At the median there are only 5 more cases in the latter group than in the former.

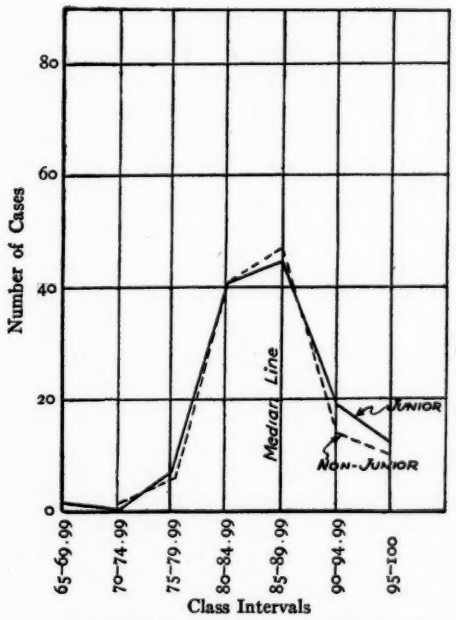
It is very clear, then, that at the end of the first year no effect has been made on their distribution. The two groups which were so close together in the sixth grade are still almost homogeneous.

One would be justified, however, in looking for some decided change in the groups by the time each has finished the ninth grade. The distribution here becomes as important as in the sixth grade, because the two groups are about to enter upon their senior high-school work. In this grade there are 6 who got conditions and 2 who failed in the non-junior high-school group, and only 1 who got below passing in the junior high-school groups, and that was a condition. However, except for a redistribution around the median line, no essential difference in the two groups is apparent. The medians are very close, being 86.97 per cent for the junior high-school group and 86.29 per cent for the non-junior group. Both medians fall, as they did in the two preceding grades, in the class interval of 85–89.99 per cent. An interesting point is that the median for Grade 9-2 of each group is almost identical with that of the 6-2 median for each group. The 6-2 median for the junior high-school group is 86.96 per cent, and the 9-2, 86.97 per cent. The median for the non-junior high-school group in Grade 6-2 is 86.30 per cent, and in Grade 9-2, 86.29 per cent.

In the ninth-grade distribution, at the end of the junior high-school training for the one group and of the regular ninth-grade work for the other, and at the beginning of the senior high-school work for both, there is still no disparity in the frequency distribution of the two groups.

At the end of the senior high-school work it is very evident that there is still little difference in the two groups. There is one failure in the junior high-school section and one condition in the non-junior high-school. Fig. 1 indicates that, instead of drawing apart, the two groups display a tendency to parallel more closely in each

grade. This is so true that, if the same colored line were used in drawing both curves, it would be very difficult to distinguish one from the other. The medians are 86.5 per cent for the junior high-school group and 86.21 per cent for the non-junior group. The average median for the entire seven years in English is 86.01 per cent for the intermediate group and 85.23 per cent for the non-intermediate group.



Junior High Median.....86.49 per cent
Non-Junior High Median..86.21 per cent

FIG. 1.—Distribution around the median for 12-2 English.

Another measure which will show the compactness of the groups is the quartile deviation of each.

Table II indicates very clearly that the longer the two groups stay in school the closer they get in ability in English. While the quartile deviations of the junior group display more fluctuation than the other, that is, although they are apparently farther apart in Grades 8-2, 9-2, and 10-2 than they were in Grade 7-2, still the deviation is small and shows a close homogeneity in the eleventh and twelfth grades. In a study of the quartile deviations of the non-junior group, it is apparent that there is even a closer homogeneity than is present in the junior group.

A study of the quartile deviations of the junior group indicates that they are quite close together in ability in the seventh grade,

but that Grades 8-2, 9-2, and 10-2 present a greater variation. However, it is interesting to note that after Grade 8-2 a readjustment occurs and the group grows gradually closer together.

TABLE II

THE QUARTILE DEVIATIONS OF THE JUNIOR AND NON-JUNIOR HIGH-SCHOOL GROUPS IN ENGLISH FOR GRADES 6-2 TO 12-2 INCLUSIVE

Grade	Junior High-School Group	Non-Junior High-School Group
6-2.....	5.123	5.25
7-2.....	3.383	3.289
8-2.....	4.553	3.342
9-2.....	4.54	3.902
10-2.....	4.03	3.891
11-2.....	3.806	3.643
12-2.....	3.574	3.317
Average...	3.280	3.451

The non-junior group displays no such violent fluctuations, however, and indicates that there were no decided readjustments to be made in the seventh and eighth grades. From the ninth grade through the twelfth the quartile deviations decrease each year.

From this study of the distribution around English and of the quartile deviations for both sections, it is very evident that there is no change in the relative positions of the two groups as related to each other in Grade 6-2 in English. This is apparently only another way of saying that the two groups start out almost equal in ability to perform the work in English and that they retain that equality throughout the seven years. The difference in form of organization seems to have had little influence on their scholastic work in English.

Having studied the work in English, we are interested in finding out what happens in the case of mathematics. Table III gives the distribution by grades for this subject in each section.

A comparison of the number of failures in mathematics for each group shows that there are 21 conditions and 23 failures in the junior high-school group and 48 conditions and 22 failures in the non-junior group. Apparently the former group was able to

perform the work somewhat more easily than the latter. The advantage, however, is small.

TABLE III

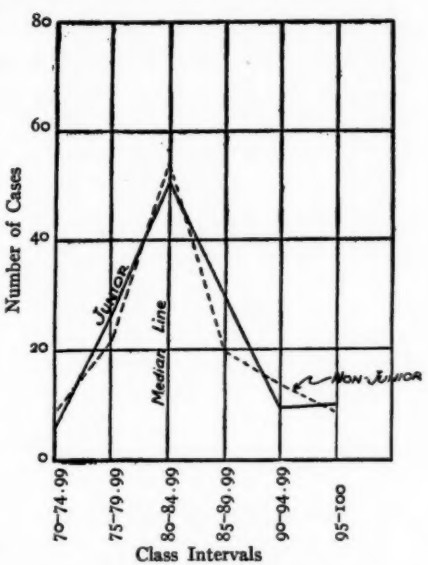
THE FREQUENCY DISTRIBUTION OF EACH GROUP IN MATHEMATICS FOR GRADES 6-2 TO 12-2 INCLUSIVE

CLASS INTERVALS	GRADES							
	6-2	7-2	8-2	9-2	10-2	11-2	12-2	Average
	Junior High-School Group							
95–100	32	36	54	37	6	10	5	4
90– 94.99	12	23	19	25	4	10	3	32
85– 89.99	62	51	60	28	13	31	5	74
80– 84.99	55	57	61	69	11	51	5	66
75– 79.99	3	3	7	16	12	27	1	20
70– 74.99	4	5	.....	2	.....	6	.....	4
65– 69.99	2	1	.....	7	1	.....	.....	1
60– 64.99	3	1	.....	7	.....	.....	.....	.....
	Non-Junior High-School Groups							
95–100	29	27	34	37	11	9	3	3
90– 94.99	9	8	9	25	6	14	2	21
85– 89.99	57	75	92	39	18	20	11	68
80– 84.99	65	73	60	61	22	54	5	74
75– 79.99	4	3	4	18	9	22	1	30
70– 74.99	15	6	2	10	.....	9	1	5
85– 69.99	2	3	.....	6	.....	.....	.....	.....
60– 64.99	3	1	.....	5	2	.....	.....	.....

In Grade 6-2 in mathematics, there are 4 conditions and 5 failures in the junior high-school section as compared with 15 conditions and 5 failures in the non-junior section. The distribution around the median for the 6-2 mathematics indicates that the two sections are almost evenly distributed. The median for the intermediate group is 86.56 per cent and for the non-intermediate group 85.25 per cent. As was the case with the English, there are more cases in the two upper-class intervals for the junior high-school group than there are for the non-junior high-school section.

The median for the junior high-school group is 87.13 per cent, and for the non-junior group 85.79 per cent, a difference of only 1.4 per cent. There are 5 conditions and 2 failures in the one group, and 6 conditions and 4 failures in the other. However, no great difference between the two groups is evident.

The 9-2 distribution is interesting because it is the grade at which both groups end their work under a different scheme of administration, and because it shows what happens when each group for the first time undertakes algebra. Under the course of study in force, both sections begin algebra in the ninth grade. The junior high-school group has 14 conditions and 2 failures and the non-junior group 10 conditions and 11 failures. This indicates a slight superiority on the part of the former section. The median for the intermediate section is 84.95 per cent, and for the non-intermediate section 85.05 per cent.



Junior High Median.....82.88 per cent
Non-Junior High Median..83.04 per cent

FIG. 2.—Distribution around the median for 11-2 mathematics.

In Grade 12-2 there were very few students taking mathematics, so few, indeed, that the curve was plotted for the eleventh grade. One of two things took place—either the junior high-school group finished their two years' required work in that subject and stopped, or they were able to finish it earlier in the course. In Grade 11-2 there are 8 conditions for the junior high-school and 9 for the non-junior high-school sections. The median in this grade for the former is 82.88 per cent, and for the latter 83.04 per cent. The curve in Fig. 2 indicates that the relative positions of the two curves have not changed much, and that there are still more cases around the median of the non-junior group than of the junior group. The average median for the entire seven grades in

mathematics for both groups is 85.63 per cent for the junior group, and 84.34 per cent for the non-junior group.

Throughout the study of the distribution of each group in mathematics, as in the case of English, there is no marked tendency to alter the relative positions in which the two groups were distributed in the sixth grade. There is no indication of any large readjustment in the relations of the two groups.

A statement of the quartile deviations of each group in mathematics will show the same thing to hold true.

TABLE IV

THE QUARTILE DEVIATIONS OF THE JUNIOR AND NON-JUNIOR HIGH-SCHOOL GROUPS IN MATHEMATICS FOR GRADES 6-2 TO 12-2 INCLUSIVE

Grade	Junior High-School Group	Non-Junior High-School Group
6-2	3.74	3.808
7-2	4.915	3.306
8-2	5.239	2.679
9-2	5.782	5.719
10-2	7.429	4.323
11-2	3.86	3.824
12-2	5.838	2.91
Average	3.568	3.525

This indicates that the longer the students of the junior high-school group are in the intermediate and senior high schools *the greater is the difference in their ability in mathematics*. This is an argument for the revision of the course. On the other hand, the students of the sixth, seventh, and eighth grades of the non-junior high-school group get closer together in ability to do the work. This may be due to the fact that they are under the same plan of organization and have no decided readjustments to make. The ninth grade, however, indicates that the first year in mathematics of a more advanced kind causes a more decided variation in their ability to do the work. The variation is larger for the non-junior high-school than for the junior high-school section, the quartile being 5.719 in Grade 9-2 and 2.679 in the eighth grade for the former, and 5.782 in the ninth grade and 5.239 in the eighth grade

for the latter. This would seem to indicate that the intermediate-school pupils had made their readjustment to the new conditions, whereas the other students were in the process of readjustment. From this point on through the senior high-school mathematics, the non-junior group grows closer together in ability. The average deviation for the junior high-school section is 3.568, and for the non-junior section, 3.525, indicating the compactness of each group.

Another method of testing and comparing the success of the two groups in the senior high school is to compare the median achievements of each group in English and mathematics by grades. The medians of each group are shown in the Tables V and VI.

Fig. 3 shows very graphically the relationship between the two groups in English. The median achievement of each is very closely related to the other. Starting with Grade 6-2, in which the junior high-school group has a median of 86.95 per cent and the non-junior high-school group 86.30 per cent, the two curves parallel each other throughout the seven years. The first three years, or through the eighth grade, the curve steadily rises for both, but drops in the ninth grade. The end of the ninth grade finds the median achievement of each group to be almost identical. For the junior high-school group it is 86.96 per cent, and for the non-junior group 86.29 per cent, a difference of only 0.7 per cent. From the standpoint of median achievement, the students of the non-junior group were quite as well able to perform the ninth-grade work as those of the junior group. The upward slope in the last year is due, no doubt, to the fact that only the pupils proficient in English and those who have failed in previous years and are repeating their work elect English in the last year in the senior high school.

At the close of their senior high-school work the two groups are separated in their median ability by only 0.28 per cent, the junior median being 86.49 per cent and the non-junior median 86.21 per cent. While it is evident from Fig. 3 that the median ability of the intermediate-school group is slightly better than that of the non-intermediate group, the difference at the most is only 2.1 per cent in the eighth grade. This advantage is hardly large enough to constitute an argument for the superior work in English under the

junior high-school plan of organization. The average median achievement of the junior high-school group is 85.63 per cent and of the non-junior group 84.34 per cent, a difference of only 1.3 per cent.

TABLE V

THE MEDIAN ACHIEVEMENT FOR EACH GROUP IN ENGLISH FOR GRADES 6-2 TO 12-2 INCLUSIVE

Grade	Junior High-School Group	Non-Junior High-School Group
	Percentage	Percentage
6-2	86.95	86.30
7-2	87.14	86.32
8-2	89.43	87.38
9-2	86.96	86.29
10-2	84.91	84.17
11-2	84.47	83.79
12-2	86.49	86.21
Average...	85.87	85.23

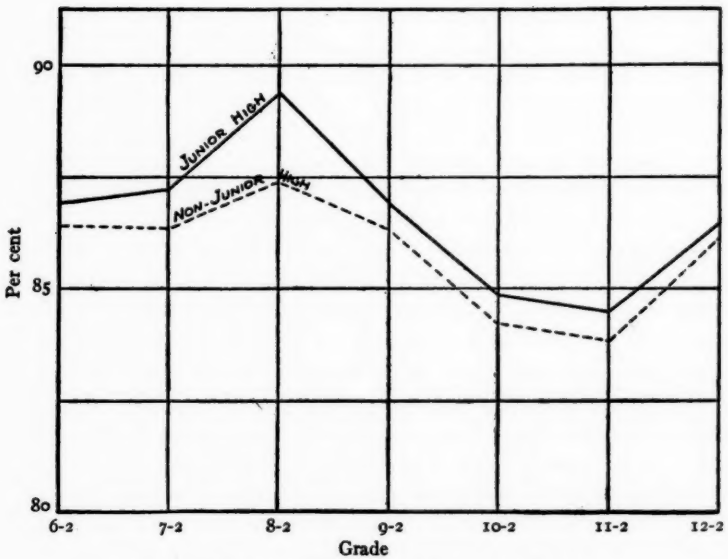


FIG. 3.—Median achievement of each group in English

Table VI and Fig. 4 showing the median achievement in mathematics are interesting and perplexing. In the sixth grade the two

TABLE VI

THE MEDIAN ACHIEVEMENT FOR EACH GROUP IN MATHEMATICS FOR GRADES 6-2 TO 12-2 INCLUSIVE

Grade	Junior High-School Group	Non-Junior High-School Group
	Percentage	Percentage
6-2	86.56	85.25
7-2	87.13	85.79
8-2	87.69	86.83
9-2	84.95	85.05
10-2	84.76	85.26
11-2	82.88	83.04
12-2	88.49	87.03
Average...	85.63	84.34

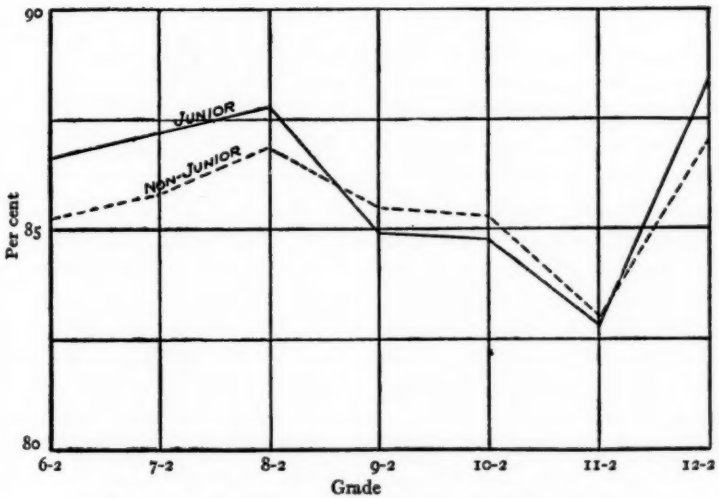


FIG. 4.—Median achievement of each group in mathematics

groups are almost in the same situation as they are in English. The junior high-school group has a slight advantage in mathematics of 1.3 per cent, while in English the advantage is only 0.6

per cent. In the seventh grade this advantage in mathematics is 2.6 per cent, but in the eighth grade only 0.8 per cent. However, while the group in English maintains a slight advantage over the non-junior high-school group throughout the seven years, the same group in mathematics is unable to do so. Apparently they are unable, as a group, to do as well in algebra as the section from the traditional school. The difference is not large, only 0.1 per cent, but the falling off from the median achievement in the eighth grade is 2.7 per cent, which is more than the loss of the non-junior high-school group, 1.8 per cent.

Through algebra and in geometry the non-junior group makes a slightly better median score. This is shown graphically in Fig. 4.

While the average median of the junior group in mathematics is 85.63 per cent and that of the non-junior group 84.34 per cent, the advantage is so slight as to make the achievement of the two groups almost identical.

SPECIFIC CONCLUSIONS FROM A STATISTICAL STUDY OF 404 STUDENTS DIVIDED NEARLY EQUALLY BETWEEN JUNIOR AND NON-JUNIOR HIGH-SCHOOL GROUPS

1. The two groups selected for this study are comparable groups. This is shown by the frequency distribution of each in mathematics and English. Grade 6-2 was chosen as the starting-point of this study, because in this grade it is assumed that each group receives instruction under a common form of organization.

2. The similarity between the distribution of the two sections in both English and mathematics does not change materially throughout the seven grades. In other words, the relationship which existed between them in Grade 6-2 remains practically unchanged.

3. The compactness of each group in English is shown by the quartile deviation. Table II indicates that the junior high-school group is more compact than the non-junior section. This may be explained by the fact that the latter group has a period of readjustment to new conditions which the former does not experience.

4. The quartile deviation for each group in mathematics indicates that the longer the junior high-school section takes that

subject the farther apart the students get in ability. On the other hand, the non-junior section maintains a very close and even relationship in mathematics.

5. A study of the median achievement of the two groups in English reveals the fact that neither has any advantage over the other. The average median for the junior high-school group in English is 85.63 per cent and for the non-junior group 84.34 per cent, a difference of only 1.3 per cent. This difference is hardly enough to constitute an argument for the intermediate school from the point of view of instruction in English.

6. An examination of the median achievement of the two groups in mathematics reveals the fact that the abilities of the two groups in that subject are almost identical. What small advantage there is is in favor of the non-junior group. As is the case with the subject of English, the work of the junior group in mathematics apparently furnishes no basis for an argument in behalf of the new type of organization.

7. In view of the foregoing, one is forced to the conclusion that the increased cost of the intermediate school in Grand Rapids from the point of view of instruction does not find its justification in better scholastic work in the senior high school. It is apparent that the work is done as well, but that the students are no better prepared to do the advanced work.

THE RELATION OF THE ACHIEVEMENT OF THE 404 PUPILS AND THE CURRICULUM IN THE INTERMEDIATE SCHOOL IN GRAND RAPIDS

With the facts just given, shall the conclusion be that the intermediate school in Grand Rapids, although it succeeds in the matter of increased enrolment and retention in school of the pupils enrolled, fails to prepare its students any better for the work of the senior high school than does the traditional elementary school? That such is apparently the case in this city is clear, but that the blame lies at the door of the intermediate school is not so evident.

The question at once arises, Has the junior high school been thoroughly reorganized as to the curriculum and the administration of the course of study? Or, in another way, do the students

in the intermediate schools have the same subject-matter presented to them as is given to the students in the elementary schools? If this is true, may not an explanation of the similarity in achievement and in distribution of the two groups be found in the answer to this question?

An examination of the curricula of the various junior high schools in Grand Rapids since they were organized in 1911 shows that there has been practically no change nor attempted change in the courses of study until the year 1915–16. In that year the course of study in English in the South High School was thoroughly revised, and this year a new course of study in history has been adopted for the same school. When the students whose records have just been studied were in the intermediate school, they followed the same course of study as those in the elementary school. Two important exceptions should be noted in the foregoing statement. In 1913 Latin and German were introduced as electives and were offered as additional subjects. This, so far as can be learned, is the extent to which the course has been revised up to 1915–16.

When it is considered that in the new type of organization the instruction in the seventh and eighth grades costs nearly $8.00 more per pupil, the expense, from that point of view, in Grand Rapids cannot be justified.

To put it in another way: it is not economical to spend an aggregate of $16.00 more per pupil for instruction to produce results which are obtainable for that much less.

Grand Rapids has been progressive in the organization and administration of the junior high school from the point of view of enrolment, and the results are very satisfactory. From the point of view of the reorganization of the curriculum, practically nothing has been done, and the results do not show progress.

SOME OF THE "INTANGIBLE VALUES" DERIVED FROM THE JUNIOR HIGH SCHOOL

Although the conclusions reached as to the scholastic ability of the junior high-school group in performing the senior high-school work do not seem to warrant the additional expense of the inter-

mediate schools, it does not follow that Grand Rapids is dissatisfied with the experiment. It is only fair to state that there are certain benefits arising from the junior high school which, in the estimation of the administration, more than warrant the increased expenditure.

Throughout this discussion, little mention has been made of the so-called "intangible values" arising from the junior high-school form of organization. The attempt has been made to confine the scope of the thesis to the "measurable qualities" of the intermediate school. In view, however, of the increased cost of the new form of organization, it may not be out of place to mention a few of the benefits which, while they are not subject to precise measurement, do, in the minds of many, justify the increased expenditure.

In Grand Rapids it is felt that the higher cost of instruction of the seventh- and eighth-graders is, aside from other considerations, justified upon the following grounds:

The period between the ages of thirteen and sixteen is the time when practically all the children enter upon adolescence. This tremendously important stage in the lives of the students is essentially a period of change. The boy becomes a youth, and the girl a maiden. They both experience an awakening of the emotions, they become self-assertive, they feel strong social attractions, they begin to think, vaguely perhaps, but none the less surely, in terms of their future vocations, and begin to realize something of their relation to the industrial world. Almost for the first time the students begin to ask the question, "Why?" about their school work. It is a period when they must be dealt with as individuals. The traditional scheme of a one-room-one-teacher form of organization with a common curriculum for all, which seemed to meet their needs during the first six years, no longer proves satisfactory. In short, the period of adolescence is the time of budding individuality.

The intermediate plan of organization gives the student an opportunity to develop and to express his individuality. Under the departmental plan of teaching he comes in contact with a greater number of teachers, with the result that he has at once a larger point of view than is possible under the traditional scheme.

He has also more men teachers, a most desirable thing for the growing boy and girl. His teachers are specialists in their line, and, as a rule, bring to the subject a breadth of view and give to the student an outlook upon that particular field not possible in any other way.

Again, the junior high school is so organized as to provide for promotion by subject rather than by grade. It is felt here that the benefits of this one change can hardly be overestimated. Nothing is more deadening than to repeat two or three subjects because a student has failed in one. It results either in "marking time" by the student or frequently in making him disgusted with the whole process of education. This leads the older pupils to drop out of school and causes the others to become rebellious and surly. Incidentally, it is a great waste of time. Promotion by subject rather than by grade has eliminated practically all of this feeling in Grand Rapids, and has, it is felt, retained many students who otherwise would have left. No statistics are available to prove this particular point, but it is subscribed to by all who have been engaged in the junior high-school work here.

Another of the "intangible values" which has operated to make the junior high school popular in Grand Rapids is that it tends to unify the school system. Children of the same age are, in general, grouped together. Pupils in the elementary schools and pupils in the six-year high school have certain interests in common. It was a frequent complaint that the older children of the elementary school had no common interests with the younger students and that they were not yet affiliated with the high school. As a consequence, little was or could be done to promote and guide the development of their social activities. From the experience in this city, where almost every form of organization is found, it is quite the consensus of opinion that for this particular purpose the three-year junior high school is the best. Under this plan both the younger children, with whom the junior high-school student has no common interest, and the older student, from whom, too often, he copies many bad traits, are eliminated.

It is also the verdict of those in the work here that one of the benefits derived from the newer type of school is the opportunity it gives for each one to develop, as far as possible, along the line of

his aptitudes, and, as a corollary of this, perhaps to discover some aptitudes which he did not know he possessed.

Indeed, this opportunity which the junior high-school type of organization offers for the adolescent boys and girls to "find" themselves constitutes, in the minds of many in Grand Rapids, its strongest argument. By means of what is known as the "rotating" plan, each boy must give a semester to the forge, to machine-shop, to wood-working, and to the electrical shop, or printing, and each girl a semester to millinery, dressmaking, and cooking previous to the ninth grade. Each student must then elect for one year one of the activities in which he or she has been prepared and in which special aptitude has been shown.

A GENERAL SUMMARY OF THIS STUDY OF THE JUNIOR HIGH SCHOOL IN GRAND RAPIDS

This study shows very clearly that Grand Rapids is one of the pioneers in the organization of intermediate or junior high schools. The fact that they were established here so early (1911) was due largely to the fortunate co-ordination of several factors. These seem to be: a superintendent who took advantage of the opportunity presented by the maturing of a building program at that particular time, a progressive board of education, and school patrons who were willing that such an experiment should be tried.

It is also evident from this study that the major portion of the reorganization has concerned itself with what was considered in 1911 to be the sole purpose of the junior high-school type of organization, the bridging over of the "gap" between the eighth and ninth grades, or the retention in school of the students for a longer period. The administration has also been active in opening new intermediate schools and in a gradual adoption for the whole city of the six-six or six-three plans. When it is considered that at present 57 per cent of all the seventh-, eighth-, and ninth-graders in the public schools are in the junior high schools, and that in 1915 86.3 per cent of the preceding eighth-grade class were in the ninth grade, and that there were 225 boys in the eighth-grade class in 1913 and 192 boys (85 per cent) in the succeeding ninth grade in 1914, it must be conceded that from this standpoint the results of the reorganization have been satisfactory.

The other fact which is no less evident is that the senior high-school graduates of 1916 who were prepared in the junior high school were no better trained than those who came from the elementary buildings.

It is evident, as the *Survey* points out,[1] that the reorganization of the secondary schools here has not been "carried far enough," and that "the most glaring faults of omission have to do with the curriculum and its administration." An examination of the curriculum reveals the fact that there has been practically no reorganization of the course of study, with the exception of the introduction of Latin and German and the added facilities for shopwork, since the establishment of the schools, until the year 1916.

In view of these facts it is logical to conclude that in Grand Rapids the junior high school will fully justify its increased cost, to put it in terms of money, only when it has been fully reorganized, not only as to its administration, but especially as to its curriculum.

The results of the statistical study of the scholastic records of the students prepared in the junior high school are disappointing, but they are by no means intended to indicate that the intermediate school in Grand Rapids is a failure, or that there have not been benefits derived from it which more than justify the increased cost. Among the values which might be mentioned are: the departmental plan of teaching, which broadens the horizon of the pupils; promotion by subject rather than by grade, and the consequent elimination of useless "repeating" and "marking time"; unification of the school system by grouping together students with the same common interests and points of view; and the providing of opportunity for students to "find" themselves.

It is true that the junior high schools in Grand Rapids have not been sufficiently organized as to their curricula, and that to function efficiently the course of study must be completely changed, but it is also true that the intermediate schools, although handicapped by an antiquated outline of work, have been able to render a real service to the community.

[1] *Grand Rapids School Survey*, p. 215.

EFFICIENCY IN ASSIMILATING READING

BERTHA M. SMITH
Oak Park High School

This problem is to test the relative efficiency in assimilation of what is read by experimenting upon pupils in the first year in high school.

The passage chosen for reading is a selection taken from Long's *English Literature*, page 487.

Dickens was the second | of eight poor children, | and was born | at Landport, | in 1812. | His father was a clerk | in a navy office. | He could never make both ends meet, | and after struggling with debts | in his native town | for many years, | moved to London | when Dickens was nine years old. | The debts still pursued him | and after two years | of misfortune | he was thrown into the poor-debtors's prison. | His wife then set up the famous Boarding Establishment | for Young Ladies; | but, in Dickens's words, | no young ladies ever came. | The only visitors were creditors, | and they were quite ferocious. |

At eleven years of age | the boy was taken out of school | and went to work | in the cellar | of a blacking factory. | At this time | he was, in his own words, | a "queer small boy," | who suffered as he worked. | It is a heartrending picture, | this sensitive child working | from dawn till dark | for a few pennies, | and associating with toughs | and waifs | in his brief intervals of labor; | but we can see in it the sources of that intimate knowledge of the hearts of the poor and outcast | which was soon to be reflected in literature | and to startle all England | by its appeal for sympathy. | A small legacy ended this wretchedness, | bringing the father from the prison | and sending the boy to Wellington House Academy, | —a worthless and brutal school, evidently, | whose head master was, in Dickens's words, | a most ignorant fellow | and a tyrant. | He learned little | at this place. |

When only fifteen years old, | he left the school | and again went to work, | this time as clerk | in a lawyer's office. | By night | he studied shorthand, | in order to fit himself to be a reporter, | —this in imitation of his father, | who was now engaged by a newspaper | to report the speeches | in Parliament. | Everything that Dickens attempted seems to have been done with vigor | and intensity, | and within two years | we find him reporting | important speeches, | and writing out his notes | as the heavy coach lurched | and rolled through the mud | of country roads | on its dark way | to London town. | It was largely

during this period | that he gained his extraordinary knowledge of inns | and stables | and "horsey" persons, | which is reflected in his novels. | He also grew ambitious, | and began to write | on his own account. | At the age of twenty-one | he dropped his first little sketch | "stealthily | with fear | and trembling, | into a dark letter-box, | in a dark office | up a dark court | in Fleet Street | ."

TABLE I

SHOWING THE NUMBER OF IDEAS GAINED BY EACH GROUP AND AVERAGE OF EACH GROUP

	PUPILS WITH FAILURES IN TWO STUDIES		PUPILS WITH FAILURES IN ONE STUDY		PUPILS WITH AVERAGE OF 85 PER CENT OR ABOVE	
	Boys	Girls	Boys	Girls	Boys	Girls
Number pupils examined	33	15	38	49	16	27
Total number of ideas	927	402	1,172	1,336	680	1,179
Average number of ideas	28.09	26.8	30.8	27.26	42.5	43.66

As will be noted by a study of the copy of the selection, all ideas are omitted that have to do with anything but facts of Dickens' life. The sentence in the second paragraph that contains "but we can see in it the sources of that intimate knowledge," etc., is the only sentence that impedes the progress of the narrative as a narrative. The experiment of reading this passage intensively for five minutes, and then of reproducing it, was tried upon six different groups of the first-year class of the Oak Park High School. The groups were selected according to the following classification:

First group: All boys who failed in two studies during January, 1916.

Second group: All girls who failed in two studies during January, 1916.

Third group: All boys who failed in one study in January, 1916.

Fourth group: All girls who failed in one study in January, 1916.

Fifth group: All boys who made an average of 85 per cent or above for the semester ending January, 1916.

Sixth group: All girls who made an average of 85 per cent or above for the semester ending January, 1916.

In every instance the test was given at about three o'clock in the afternoon after the day's work in school. The instructor gave

each group the same explicit directions as to procedure. It was impressed upon the pupils that they should concentrate intensely for five minutes upon the work that was upon the sheets of paper turned face downward upon the desks at which they sat. At a given signal all were to turn the papers and read. Then at another signal, at the end of the five minutes, they were to write what they had read, not aiming to reproduce the exact words of the passage, but to give the ideas or facts related.

Every subject was given as much time as he wanted in which to do the writing.

The method of dividing the sentences of the selection into units or ideas was followed by the instructor. By consulting the copy of the passage read, it will be noted that it is estimated that the selection contains ninety-two ideas.

Table II shows that in the case of the boys with two failures over half of them were able to get only from 25 to 35 ideas; while in the case of the girls with two failures approximately half of them could not get beyond the range of 25 ideas. Of the 33 boys, only four were able to gain more than 35 ideas; of the 15 girls, four likewise went above the 35 mark.

Of the 38 boys with one failure, 14 ranged from the 20 to the 30 mark, while 13 gained more than 35 ideas. Of the 49 girls, 29 are found between the limits of 20 and 30, while only ten went beyond the 35 mark.

Of the 16 boys with an average of 85 per cent or above, 11 are beyond the mark of 35 ideas; of the 27 girls with the 85 average, 21 are beyond the mark of 35.

It is interesting to note that the starting-point, or lowest number of ideas made by the boys and girls of the 85 per cent average, varies only three or four points from the average number of ideas made by the boys and girls with two failures; and that the average number of ideas gained by the boys and girls with 85 per cent average varies only two or three points from the highest number of ideas gained by the boys and girls with two failures.

At first glance it would seem surprising for a boy failing in one study to gain 70 ideas. Only one student took the test twice, and that was the boy with the 70 ideas to his credit in the group of boys

TABLE II

SHOWING THE VARIATION IN THE ASSIMILATION OF IDEAS ACCORDING TO THE INDIVIDUAL PUPILS

Ideas Gained by Pupils with Failures in Two Studies				Ideas Gained by Pupils with Failures in One Study				Ideas Gained by Pupils with Average of 85 Per Cent or Above			
Boys		Girls		Boys		Girls		Boys		Girls	
No. of Boys	No. of Ideas	No. of Girls	No. of Ideas	No. of Boys	No. of Ideas	No. of Girls	No. of Ideas	No. of Boys	No. of Ideas	No. of Girls	No. of deas
						1	9				
						1	10				
						1	11				
				1	14						
1	15	1	15	2	15						
1	16	1	16	1	16	1	16				
1	17	1	17	1	17						
				1	19	1	19				
1	20	1	20	3	20	3	20				
1	21	1	21	1	21	3	21				
2	22	3	22								
3	23			2	23	7	23			1	23
1	24			3	24	2	24	1	24		
1	25	1	25	1	25	2	25				
				1	26	3	26				
5	27					5	27	2	27		
2	28									1	28
		1	29	2	29	2	29			1	29
2	30			1	30	2	30			1	30
1	31			2	31			2	31		
3	32	1	32	2	32	3	32				
2	33					1	33			1	33
2	34									1	34
				1	35	1	35				
		1	36			2	36	1	36	1	36
1	37			2	37	3	37	1	37		
1	38			1	38					1	38
		2	39	3	39	2	39				
						1	40	3	40	1	40
				2	41					1	41
				1	42					1	42
				1	43					1	44
2	45										
						1	46			5	46
		1	47							1	47
						1	50	1	50	2	50
										1	51
				1	54					1	54
										2	55
								2	56		
				1	57						
								2	58	2	58
										1	63
				1	70			1	69		

with one failure and with the 69 ideas in the group of boys with an average of 85 per cent or above. Through carelessness he had failed in one study in January, but still had an average of more than 85 per cent for the semester. Inasmuch as the group with the high average took the test last, he gained nothing by his additional five minutes of study, but lost one point.

The following are some of the most glaring of the errors made by those of the different groups.

I. ERRORS MADE BY BOYS WITH TWO FAILURES

"At night he took Shorthand. At about this time he thought of writing poetry."

"He went to a small acadimy where he said the teacher was a pirote." [The spelling is the pupil's.]

"He went to work in a lawyer's office. He afterwards became a lawyer." [Note: This is the closing of one of the papers.]

"Dickens got a job in a livery stable and while the coach rolled along he would write poems about the horses and at the age of twenty-one he dropped a poem of a letter box in Fleet Street."

"Dickens was thrown in a debtor's prison. At the age of eleven he was taken out and put to work in the cellar of a tar factory."

"At the age of twenty-one, he grew ambitious and began to write poems and in this same year he had his first poem published."

II. ERRORS MADE BY GIRLS WITH TWO FAILURES

"England's sympathy brought his father out of the cell."

"Dickens went to work in a blacksmith's cellar where he learned quite a bit about the stables and horses."

"After Dickens began to work, things went better and he was soon making speeches."

III. ERRORS OF BOYS WITH ONE FAILURE

"Dickens often imitated speeches while he rode in the coach."

"When he was fifteen, he quit school and began working in a livery stable."

"His father became great in Parliament."

"Dickens was getting some ambition and he saw some of the world and he knew what a stable was."

"When eight years of age he was put in prison."

"He wrote his first story and put it into a very dirty box in a very dirty street when he was twenty-one."

"He soon made an appeal to the English people and made enough money in this way to get his father out of prison. He wrote many interesting novels

in his career. Among them was about taking a letter up a dark street to drop in a dark box."

IV. ERRORS OF GIRLS WITH ONE FAILURE

"He used to write notes on his way to and from Paris."

"When he put his first book in the mail box he put it in with a sigh of relief, but never dreamed it would be published."

"The familty to which he belonged lived in Massachusetts. The town in which Dickens went to school was an academy for girls but they did not seem to pay any attention to Dickens or any of his classmates."

"His father made the speeches for Parliament and Dickens took the notes."

V. ERRORS OF BOYS WITH AN AVERAGE OF 85 PER CENT OR ABOVE

Of these few made mistakes. What they wrote for the most part was correct. They did not do "guess work." If they could not remember, they left out the material. The following were the worst mistakes found:

"For a while he worked in a stable where he got his knowledge of "horsey things"."

"Dickens was sent to a military academy."

"When he was a young man he wrote literature. The name of this piece was "Stealthily." [This error is understandable when the selection is scrutinized.]

VI. ERRORS OF GIRLS WITH AN AVERAGE OF 85 PER CENT OR ABOVE

"Creeping stealthily to the black mail box on *Quick* Street."

"Dropped his first epistle with a quaking heart into a dark letter box on a dark *corner* in a dark street."

"Dickens was sent to a very strict academy for boys."

"In the basement of a boot blacking shop!"

An experiment of this sort is only further evidence of the differentiation of the minds of pupils. It only tends to verify the judgments the teachers had already rendered by means of the school's grading system. Furthermore, the teachers in consultation after the first two or three weeks of school in September had questioned what should be done with many of these pupils, who later were subjected to this test in that they had failed in part of their school work. Their teachers, in a good share of the cases, knew very soon after the beginning of the school year that these pupils were not mentally equal to the school tasks as now assigned.

Aside from a few removals, most of the pupils, however, continued in their courses to the end of the semester, even though their work was not up to the accepted standard.

The question arises after a scrutiny of the results of this test, whether there is not a fundamental difference between the type of mind exhibited by those listed as failures and the type of mind shown by those with the 85 per cent average. The conditions of the test were the same, yet the results were comparatively in accordance with the kind of classroom work done by each. If these types of mind are not different, then it is the training processes through the various grades that have failed to register the same results. The contentions are that variations in pupils do exist and that the pupils should be studied with closer attention as to what these variations are; and that the training processes, by lack of drill differentiated to suit the need of the individual pupil, have fallen short of achieving their purposes.

Business houses more and more are engaging experts to study their men employed to see that the right man is in the right place. It is becoming, or has become, only a matter of good business to do this. In the school world such business tactics applied to the fitting of boys and girls to the right courses, and to the creating of courses for the right boys and girls, would help to minimize the present uneconomic loss in secondary education. The wholesale apportionment of pupils to a few limited courses refutes the idea that this is actually done.

But it is not merely the placing of the pupil in the proper place for him that constitutes the problem. Good business undertakes to find the resources and limitations of its employed and to develop what it discovers, intelligently and systematically. Theoretically, educators do this, too. In actuality, however, if pupils cannot keep up with the standardized pace in the few courses now offered, then they must repeat these courses, or else sever their relations with the school. Such conditions exist in practically every school.

If pupils in the first year of high school cannot read a simple narrative in English such as was used in this test without making extremely gross errors, it is very plain why there are so many failures in the course in English as it is now given. Furthermore,

how can these pupils be expected to combine and recombine properly the grammar forms in other languages, such as Latin and German? The same holds true of algebra and general science. A mind that jumps at conclusions and wildly leaps into expression with small regard for accuracy and truth has little taste for the laws of sequence and reason. Then why not regard it as a fact that such minds do exist, and begin to build with the foundations they already have, and not with the foundations the present acceptable type of student possesses?

Observation of the manner of each pupil in his method of attacking the problem was of interest to the experimenter. The pupils with failures approached this test in a different attitude from that of the good students. With the latter it had the appearance of an adventure. What it was for they did not know, but they went at it with zest. Their concentration was marked. Only one of the 85 per cent group looked up before the signal was given to stop. On the other hand, when the groups of "failures" were examined, the pupils showed a restlessness in less than four minutes and seemed to indicate that they were ready to write. They lacked application, and consequently the results were poor.

To say they lacked application is easy, but what is behind that lack? It is evident that their understanding of simple English is poor and haphazard. It may be argued in answer to this that their interest did not "connect up" with what was being read, and, as a result, they reacted with the long-standing habit of listlessness of mind toward what seemed uninteresting. It is true that in consultation with these pupils in regard to the unsatisfactory condition of their work they often assigned the reason "I'm not interested." But for pupils, though they may not be interested, to have formed habits so that such inaccuracies can be made strengthens one's belief in the need of investigation into the ways and means of the injection of subject-matter into the pupil's mind.

The teacher taking too much for granted has, no doubt, caused many a pupil to go beyond his depth. If tests were to be devised that would show what kind of mind the pupil has and, in some measure, its capabilities; then if courses were arranged in the curriculum that would take care of these variable types, and would

begin with them where their abilities begin, not so many pupils would complain, "I'm not interested." At present the good, the poor, the indifferent, are grouped in the same classroom. Much of the instruction is below what the strong pupil needs, and much of it is above the weak pupil. To strike a so-called happy medium, in this instance, is not sound pedagogy.

Too long has it been taken for granted that the slower pupils should have "equal opportunity" with the quick pupils—"equal opportunities" meaning "same opportunities." The time element enters into the problem, for the quick pupils in the five minutes of time had stored in their minds many more ideas, and more accurate ones, than the slower pupils had. Then how can these two classes of pupils be taught upon the same basis? A glance at the few errors made by the pupils with 85 per cent average will show that these errors are explicable. In almost every instance the law of analogy, or of association, or of synonymy, can be traced in the mistakes. But no such excuses can be found for many of the wrong ideas expressed by the slower pupils. Theirs seems to be a fundamental difficulty. Why try to lead them farther into the realms of abstraction and complex visualization when as yet the basic elements of these two have not been grasped by them?

According to the test, those who do well in their regular school work have application and concentration; those who do poorly in their daily routine of studies lack both these qualities. At least this is true of these groups examined. Perhaps the stress too long has been upon the getting of results without the careful study of the scientific means to get these results. It is said that "with brains, sir," was the reply which Dürer, the famous painter, used to give when his pupils asked him how to attain a certain effect in a picture. The modern teacher cannot be so haughty and final in his answer; he must show his pupils *how* to *use* "brains" before he attacks too strenuously the results put before him.

SUPERVISED STUDY AND THE SCIENCE LABORATORY

ELLIOT R. DOWNING
University of Chicago

The laboratory as an educational accessory is a relatively recent affair. The first chemical laboratory—probably the first laboratory open to students—was that of Liebig at Giessen established shortly after 1824. Harvard University opened its first laboratory for students in 1846. The laboratory appeared as an adjunct of the high school less than a half-century since, and even yet it is by no means in universal use.

The advantages that have been claimed for the laboratory method in science instruction are many:

1. It affords opportunity for first-hand contact with materials and processes and thus leaves concepts in the mind of the pupil that are much more accurate and clear-cut than can be attained by information won from descriptions and pictures. What a revelation, for instance, are active, living cells like amoebae to the student who has formed his preconception of such objects from his reading only.

2. It imparts information in a very effective way, so that the pupil retains the knowledge much better than when he acquires it by other methods of instruction.

3. It gives opportunity for a very complete type of reflective thinking in solving problems. The student may collect his own facts, devise his own hypotheses, test them out, and form his own judgment. Drill in this sort of thing tends to develop good habits of scientific thinking and ideals of its practicability and applicability to all situations, together with self-reliance in the formulation of opinions. Good types of the solution of a problem by reflective thinking are familiar in such things as Pasteur's successful attempt to avert the menace of the silk-work disease, or the modern physicist's revelations concerning the nature of radium.

4. It is a psychologically correct method, taking advantage of the pupil's instinctive curiosity and his inherent activity to arouse native interests and hold attention by manual and sensory effort so as to carry over into sustained, acquired interest, and a will to grasp the more fundamental concepts and principles.

5. It may develop a very desirable type of skill. This is a relatively unimportant factor in the high-school scientific studies. The medical school illustrates it in the skill it imparts to the embryo physician in the dissecting-room, the engineering school in the skill it gives in the analytical laboratories. The high-school shop is a type of laboratory that does give a serviceable skill to the high-school pupil.

These and other things have been stressed as the chief ends to be achieved in laboratory work, possibly these are the most important. It is needless to inquire which one is the most essential; all are worth while, all may be achieved.

Teachers of science have not been slow to see that the adoption of the laboratory method does not of necessity insure good teaching. Indeed, the multiplication of apparatus and the consequent added responsibility of its successful care and administration often make the laboratory a handicap to a fairly successful instructor. To relieve the teacher of the added burden and to enable him to supervise the work of large laboratory sections, resort has been had to various devices, notably the laboratory assistant and the laboratory guide. Certain considerations will make apparent the dangers accruing from these substitutes for the personal guidance of the teacher.

Laboratory work is essentially supervised study. It is interesting to note that as supervised study is introduced as a feature of other subjects in the high schools the periods are quite invariably lengthened, often doubled, so as to allow the teacher time to give that individual attention so essential to the success of the method. Moreover, there appear, almost certainly, directions and outlines for study, quite comparable to those of the scientific laboratory which have so often formalized and deadened the laboratory work that in many cases a return to the lecture-demonstration method would be a vast improvement.

As long as it is conceived that the chief function of the laboratory is to bring the student in contact with concrete material, then a laboratory assistant with sufficient intelligence to set things out and put them away in an orderly fashion and printed directions for the manipulation of the apparatus are adequate.

If information is the end sought, the laboratory guide may be sufficient to state the facts and principles, and the assistant, with its aid, may direct the process of their verification. It is to be noted that the laboratory method of acquiring information is very wasteful of time. It is justifiable only when the concepts involved are new and need clarifying by contact with the materials or occasionally when an important principle may be simply demonstrated by the student's experimentation. Most information, if the student really has need for it, is most economically acquired either from books or from lectures.

But when we conceive of the laboratory as a place where real problems are discovered and solved in order that the pupil may be habituated to proper methods of reflective thinking, where ideals may be established so that the scientific attitude of mind will carry over into life's problems outside the laboratory, then it is evident that nothing must come between the nascent mind of the pupil and the contagious and enthusiastic ability of the teacher.

This aim of science instruction is one of the most fundamental in democracy—to habituate pupils to reason to correct conclusions on the basis of observed fact rather than to hold opinions based on whims, fancy, myths, and prejudice. The best feature of the laboratory is, therefore, the opportunity it affords for the intimate give and take between pupil and teacher, when the teacher can supervise the steps in the student's thinking, see that they are logical, criticize errors, stimulate enthusiasm, and the student can ask for assistance at the points where he finds himself floundering. This is so essential, in secondary-school work at least, that the wise teacher prizes highly his chances for this sort of supervised study, and even in the advanced work of college or university, where the information aim is much more important, the wide-awake student finds fault if he is turned over to the inexperience of the laboratory assistant.

Drill in productive thinking can be accomplished only when the work is presented in problem form. A problem is the only justification for contact with materials and absorption of knowledge. When the pupil can be started on a problem that seems real to him, he is positively chemotropic for relevant facts and has a keen appetite for all knowledge that has a bearing on its solution. Observation for observation's sake is inane and worthless; an accumulation of fact is a rubbish heap unless assimilated to nourish some growing idea.

Briefly, then, efficient laboratory work deals with commonplace materials that have direct economic and social values and inherent interest for the pupil. It directs observation toward the accumulation of the facts in order that some problems vital to the pupil and therefore socially worth while may be solved. It aims to habituate the pupil to solve problems under wise supervision by reflective thinking on a basis of observed fact, to establish an ideal of the scientific method of attack on problems, and to carry the method over into related questions that concern the boy and girl. It tries to equip the immature mind with the problem-seeing, problem-solving attitude of mind as a permanent tool of inquiry.

Laboratory work must needs begin with simple problems well within the pupil's comprehension, and with *his* problems, not some propounded to him. The organization of science instruction must be from the point of view of the pupil, not from that of a specialist. The scientist has been slow to recognize that there is a possible science of the pedagogy of science; possible, I say, for it is still largely a field for investigation, although substantial beginnings have been made.

Laboratory work must be so organized as to increase in difficulty as the pupil increases in mental power. We need some "scale of hardness" to test out the difficulty of topics in all our high-school sciences and to give us some really scientific data on the subject, to replace our a priori conception of what the pupil ought to find easy. In fact, the records of failures in final examinations and of failures in college-entrance examinations would seem to indicate that we have no notion, even a hazy one, regarding the scientific problems that are within the grasp of the average high-school pupil.

But there is another element to be considered in estimating the difficulty of a course besides the inherent difficulty of the prescribed subject-matter—that of the manner of presentation. In laboratory work this is as a rule hopelessly monotonous, and often it entirely ignores the essence of the whole thing, the problem type of organization. The experiment is set out for the student with no statement of the problem to be solved, often with directions so formulated that the results are implied, hence giving no opportunity for the student to gain in problem-solving power. An experiment is not an experiment unless it aims at the settlement of a dubious point. Most so-called experiments are demonstrations. The laboratory guide is prone to become a receipt book, and the teaching based upon it has been dubbed "the cook-book style." It scarcely deserves the appellation, for it even lacks the satisfaction of an edible product. This does not imply that all of the subject-matter must be presented in problem form. Much may be given as textbook work to be learned; much by lecture and demonstration; much drawn from the previous experience of the pupil, now merely to be reorganized for present purposes. But some of the work should be in problem form for the avowed purpose of giving drill in problem solution. Such problems should be real problems, and the solution should not be written across the face.

The average textbook or laboratory guide presents its problems in a stereotyped way that decreases rather than increases the pupil's self-reliance. The formula is monotonously the same from start to finish:

Statement of problem
Apparatus supplied
Directions for proceeding
Results obtained
Conclusions to be drawn

It would be a marked improvement gradually to cut out the props, helping the pupil generously at first to take the successive steps, all of which are difficult, and then gradually teach him to "go it alone" until he is given some problems to solve unaided, and finally is called on to make a survey of material, in order to find, define,

and solve his own problems. This is no chimerical fancy; it is actually being done in some of the best high-school teaching.

SELECTED BIBLIOGRAPHY

1. Bigelow, S. Lawrence. "The Growth of the Modern Laboratory," *Science* (N.S.) XIX (April 22, 1904), 641–50.
2. Caldwell, Otis W. "The Laboratory Method and High School Efficiency," *Popular Science Monthly*, LXXXII, 243–51.
3. Dewing, A. S. "Science Teaching and the Laboratory Method," *School Science and Mathematics*, VIII (December, 1908), 740–44.
4. Galloway, T. W. "An Appreciation of the Pedagogical Possibilities of the Biology Laboratory," *ibid.*, VIII (1908), 116–25.
5. Goddard, H. N. "Laboratory Teaching," *ibid.*, XVI (1906), 710–19.
6. Hall-Quest, A. L. "How to Supervise the Study of Science." *Supervised Study* (1916), chap. xiii.
7. Judd, H. C. *Psychology of High School Subjects* (1915), pp. 338–39.
8. Lloyd and Bigelow. *The Laboratory, Its Equipment, Method for Study and for Demonstration*, chap. ix in Part I, "The Teaching of Biology," pp. 209–28; *ibid.*, chap. iii in Part II, "The Laboratory and the Scientific Method in the Teaching of Zoölogy in the Secondary School," pp. 294–319.
9. Mann, C. R. *The Laboratory Work. The Teaching of Physics* (1912), chap. xi, pp. 246–69.
10. Mayman, J. Edward. "Teaching Elementary Science in Elementary Schools," Dept. of Education, City of New York, Div. Reference and Research, *Publ. 13*, 1915, "The Laboratory Method," pp. 23–30.
11. Newell, L. C. "More Profitable High-School Chemistry," *School Review* (May, 1901), ix, 286–97.
12. Parker, S. C. "Laboratory Methods," pp. 449–64. *Methods of Teaching in High Schools*, chap. xix.
13. Roberts, H. F. "The Relation of Class to Laboratory Work in Biology," *School Science and Mathematics*, XIV (1914), 467–72.
14. Smith and Hall. *The Teaching of Physics and Chemistry* (1913), chap. iv, pp. 87–127.

THE JUNIOR HIGH SCHOOL

DESCRIPTION OF THE LOCAL SITUATION IN HANNIBAL, MISSOURI

L. McCARTNEY
Hannibal, Missouri

Among the most important reasons leading the school authorities of Hannibal to adopt the junior high-school idea may be mentioned: (1) a strong local recognition of the fact that many of the pupils were not getting the kind of training in the higher elementary grades that they most needed; (2) the failure of the work in these grades to make an appeal to the pupils who came from homes where they were not supported by a strong educational tradition and sentiment; (3) the difficulty experienced by students in accomplishing the work of the first high-school year; and (4) the belief that the majority of pupils found in Grades VII, VIII, and IX when taken collectively constitute a natural psychological unit requiring treatment essentially different from that above or below these limits.

Based on these considerations action was taken establishing two junior high schools in September, 1915; and in one other school the work of Grades VII and VIII was departmentalized and was given some of the characteristics of junior high schools. At a later date it is expected to make this school the third junior high school in the city system. In this connection it should be said that the changes in our system have been gradual rather than abrupt; and some of the features of junior high-school life, as usually recognized, were found in our schools before September, 1915. All schools containing seventh and eighth grades had been equipped for laboratory and shop work in manual training in wood and in household arts, and all pupils in the grades named were receiving regular training in those forms of educational activity. The instruction in these subjects was departmentalized; and some progress had been made in departmentalization in other work. In one of the three schools now under discussion the departmental plan of teaching had been

quite definitely worked out in all major subjects. In addition to these three larger elementary schools here described in brief, we had the smaller elementary schools, and these on account of location were organized either on the six-grade limit or less. These smaller schools were tributary to the larger schools for Grades VII and VIII, and all were tributary to the one central high school giving the work of Grades IX to XII inclusive. From this statement of the local situation it will be seen that the setting of a definite time when the junior high school was first formed in Hannibal will depend upon one's definition of a junior high school. We have selected September, 1915, as the date most nearly marking the time when our schools took on the characteristics that we believe to be the essential features of this school. At that time we not only changed the form of the organization, but also made certain modifications in the course of study that will be described more fully below.

In the two junior high schools already formed we have sixteen teachers and approximately four hundred pupils. One of these schools is about twice the size of the other, but both have the same standing in the school system and both offer their pupils the same scope of work. The details may differ, if the local needs of one school appear to be unlike those of the other. All teaching is departmentalized, and some elective work is offered in Grades VIII and IX. This work will be set forth more in detail in a paragraph treating of the course of study.

Our junior high schools are housed in the same buildings with elementary grades (I to VI), and the junior high school in each case is under the same principal as the corresponding elementary school. This is not a temporary device with us, but we believe that it is the plan best suited to give the results desired. Our purpose in taking the ninth grade to more than one location in the city is to bring the work of that grade close to the homes of the pupils and thereby bring about a unification of the junior high-school work in each part of the city, where it can make its own direct appeal. Results are justifying this view, if any conclusion can be drawn from so short a period as ours has been. The opposite course of procedure would be to withdraw the work of Grades VII and VIII from the immediate home neighborhoods of the pupils and

concentrate that work in centers more or less remote. This would have a tendency to create a gap between the work of the first six grades and the junior high school, and would constitute a new and unnecessary danger.

Similar reasons influence us in the plan of giving one principal charge of a junior high school and the elementary school found in the same building. A principal so situated is enabled to work out many problems dependent upon the interrelation of the two types of school and to make the school training of the individual pupil continuous and consistent to needs. The junior high-school organization within a building is distinct and constitutes a unit apart from the elementary grades, having its own part of the building, its own form of class organization for departmental instruction, and in fact all the characteristics of a separate organization. As we have some buildings containing both junior high schools and elementary schools and other buildings containing only the elementary schools of six grades, we shall be able to make a limited comparative study of some features of the two plans of housing. This is an interesting line of study of the relation of the junior high school to the elementary school.

In making the course of study for junior high schools we have proceeded gradually rather than by an abrupt and radical readjustment. A statement of the changes in the course of study, then, will be most helpful if divided into two points: (1) the work as it now stands; and (2) the further modifications to which we are looking forward.

Three principal considerations have been kept in mind in modifications that have been made. These are (1) the elimination of topics and parts of subjects that had lost such usefulness as they ever possessed for pupils of the adolescent age; (2) the introduction of some work at a time earlier in the course than had been previously set; and (3) the introduction of elective studies as low as Grade VIII. Among the topics and parts of subjects of study eliminated from the course may be mentioned some of the intricate work in technical English grammar, the topics in arithmetic not readily related to the life-experience of pupils in the junior high-school grades or not now in general use in business, and the older forms of presenting history

and civics in these grades. Condensation was also brought about by grouping such subjects as reading, writing, and spelling under the head of English, and making two general kinds of English instruction—the expressional and the literary or appreciative.

Commercial arithmetic, which had previously been presented in the ninth grade, was placed in the eighth grade. It now constitutes together with business English the first part of the commercial courses in the junior and senior high schools. Latin, previously offered for the first time in the ninth grade, is an elective in the higher eighth grade. Algebra is made part of the course in the latter half of the eighth grade and continued in the ninth. A student may omit algebra, but if he does so he will be required to take plane geometry in the senior high school if he enters that school. While we have reduced the importance of algebra, we have not made the study of mathematics entirely elective in both junior and senior high-school courses. Students expecting to take certain courses in the senior high school are expected to take algebra in the junior high schools.

As has been stated in an earlier paragraph, our schools had been provided with equipment in manual training and home economics in Grades VII and VIII, and all pupils in those grades were receiving regular training in those subjects before the junior high-school plan was adopted. This work is now a part of the junior high-school course. As the courses offered are general in character and suited to the needs of all adolescent pupils, the work is not placed in the list of elective subjects, but is required of all. It is of a prevocational nature for such as may later take definite vocational training in these subjects, but for other pupils it is a training for life in a broader sense and for home-making in a definite sense.

General science is offered as an elective in the ninth grade. The course is planned to be non-technical and to be presented in terms intelligible to pupils of that grade. The work as presented requires mostly such apparatus as can be improvised in the school shops under the direction of the teacher. A few pieces of standard apparatus are desirable, and these can be taken temporarily from the senior high school if not available for permanent use in the junior

high-school laboratory equipment. This point has presented no very serious difficulty in our work.

With such modifications as have been indicated, the course of study is an outgrowth of the course that had previously been in use in Grades VII, VIII, and IX. Four principal lines of work prevail: the work in English with a reduction in the requirement in English grammar for pupils who take Latin; the work in mathematics consisting of arithmetic and algebra with a special treatment of commercial arithmetic in the eighth grade; the work in geography, history, and government; and the course in general science preceded by physiology in the eighth grade. Minor work is also given in music and drawing. The courses in manual training and home economics already described complete the outline as it now stands.

In our further study of the problem of the modification of the course of study we plan to introduce more vocational work by increasing the commercial subjects offered, and to modify the manual training by the introduction of some form of vocational work. The exact nature of these changes cannot now be known. An additional subject of investigation in this connection is the matter of introducing one of the modern languages in the grades below the ninth as an elective. We consider these changes desirable, but on account of our financial limitations we have not been able to take them up as early as some of the items mentioned.

In the selection of teachers for the junior high schools we have aimed to establish a standard based on (1) special success in dealing with pupils of the adolescent age as shown by previous experience as teachers, and (2) not less than two years of student work of college grade pursued under conditions where the professional phase of teaching was predominant. In first choosing the teachers for the junior high schools we took those in our own schools who came nearest to the realization of this standard, and supplemented the number by electing new teachers who met the standard of scholarship, although they had not the experience to indicate special success in higher grade work. In such cases we could be guided only by the probable success of the prospective teacher as indicated by qualities of character. In dealing with teachers in our own corps, who were chosen for this work because of special success but

did not fully reach the standard of scholarship, we have tried to hold out inducements to complete the requirements by working in summer schools. In this connection I wish to say that our teachers are all earnestly working toward the attainment of the standard.

In selecting teachers for junior high schools the principle need is to find teachers who have a vision of the real junior high-school problems. At the present time it is very doubtful whether young graduates of four-year college courses can be found who have this vision. They have been too busy as students of strictly academic subjects to have had much experience in teaching in the higher grades of elementary schools; and if their college work has been in an institution where the professional phase of teaching is not the predominant element, it is not probable that their training has developed junior high-school aims. They are better suited to get their first experience as teachers in a senior high school than in a junior high school. Even those young teachers who come from institutions where the professional phase of education is predominant, are likely to need considerable readjustment before they can be truly efficient. Altogether we have found that the best type of teacher for these schools is the teacher who has already shown marked fitness for dealing with adolescent pupils and who also has the college training or will get it as rapidly as circumstances permit.

Among the benefits that we have already been able to see resulting from the organization of junior high schools in our city, I may mention the strong spirit of unity shown in each junior high-school group. My observation is that the relation of the seventh, eighth, and ninth grades to one another is much closer than the relation of the ninth grade to the grades above it. This judgment is based on observation of both plans of grouping. A direct result of this regrouping is also noticeable in the senior high school, where the students now constitute more truly a company of secondary students of one general type.

Individual success in the work of the ninth grade is one of the marked results of this reorganization. Our ninth-grade pupils are not now showing the strong tendency to break down in the quality of their work that was formerly shown. While there are still many

who have some difficulty, the tendency toward a higher standard of success is very plain.

We are also experiencing a strong tendency to make certain special and definite requirements of the six grades in the elementary schools, as constituting the kind of work peculiarly suited to be accomplished in those schools. While our plan of promotion is flexible and will permit the real interests of the individual to be served in all these grades, the scope of work attempted is growing more definite and the standard of measurement of results is growing more specific. From this it will be seen that the beneficial results of junior high-school organization are manifesting themselves in the entire system of schools.

THE SUPERVISION OF EXTRA-CURRICULAR ACTIVITIES

ELMER HARRISON WILDS
State Normal School, Platteville, Wisconsin

The following investigation was made with the purpose in view of devising a method for the supervision of extra-curricular activities in the high school that could be applied universally to all types and sizes of high schools and solve the many evils connected with the administration of the manifold forms of these activities as found in our schools. Three sources of material were used in this investigation: (1) the literature on this phase of school administration; (2) reports by school principals on question blanks submitted at random to a large number of high schools; (3) reports in the form of personal letters from a number of principals who were known to be interested in this phase of high-school administration.

From the literature, especially from the *Proceedings of the National Education Association* and various school journals, were obtained descriptions of many pioneer experiments in the supervision of extra-curricular activities. From the question-blank reports it was possible to determine statistically such questions as (1) the extent of extra-curricular activities in the schools, (2) the evils that exist in connection with these activities, and (3) the various types of administration that are being used. Personal letters were written to a number of high-school principals who were known to have an active interest in the problem or to have recently inaugurated new schemes of administration. From this source came many descriptions of recent experiments. As a result of this investigation, it was found possible to devise and put into operation the plan of supervision described in this article, a plan which I am convinced can be used as the basis of a well-organized, standardized scheme of supervision, adaptable to all schools.

It is impossible to reproduce in this article the details of the statistical results of the investigation. A few general conclusions,

however, may be noted, especially with regard to the extent of extra-curricular activities and to the prevalence of evils in connection with them.

1. Of the schools reporting, 13 were large schools, with a median enrolment of 1,220 and a median number of teachers, 54; 50 were small schools, the median enrolment being 207 and the median number of teachers, 10. Yet it is significant to note that there is little difference between these two groups of schools with regard to the number of activities, the median number of activities being 15.7 for the large schools and 13.5 for the small schools. When one realizes that it takes as many students, as a rule, for each form of activity in the small school as in the large school, and as many teachers to control them properly under the present system of administration, one can readily see the main reason for the prevalence of evils as found. The remedy must be either to cut down the number of activities or to formulate a new scheme of administration. Since these activities are all of such great educational value, the latter is the remedy to be applied.

2. In all the schools there is a tendency to stress certain forms of activities at the expense of others equally important. The older forms of activities are engaged in and stressed at the expense of newer forms that really have as much or more educational value for the pupils.

3. Evils were found to be much less prevalent in schools where some attempt was being made to adopt new methods of supervision. This shows that the evils can be remedied by intelligent efforts at correct supervision.

4. The following evils were found to exist to a greater or less degree in the various schools:

Duplication of activities by different organizations
Excessive expenditures of money by organizations and by individuals
Duplicated purchases by different organizations
Waste of supplies and equipment
Conflicts in scheduling dates for events
Interference by out-of-school organizations
Limitations in number of students participating
Overloading of work upon a few students
Neglect of curricular work for extra-curricular activities

Lack of centralized authority
Too much burden upon principal
Difficulty of securing teachers capable or willing to supervise
Lack of adequate faculty supervision
Lack of means for compensating teachers for such supervision
Development of cliques and small partisan groups

5. The evils that predominate are those connected with participation. Overloading and consequent neglect of curricular work is most common. An average of 15.5 per cent take part in more than three forms of activities. Only four schools report attempts at restricting participation. There is also a great limitation in participation shown. An average of 29.2 per cent is reported as taking part in no form of activity. The second commonest type of problem is the difficulty of securing teachers capable or willing to act as sponsors, and also the inability to compensate teachers for this extra work. The third common group of evils is financial. These financial troubles could all be remedied by centralizing the handling of money in one responsible person, and by the use of a budget and voucher system.

Many experiments have been evolved by principals and teachers from their desire to handle these problems in the best possible way, and many of these experiments have succeeded admirably in lessening the evils mentioned above. Some have been reported in detail in the school journals but many of the best experiments have not been published. I am describing some of the most typical of these experiments here in order to show what has already been done in the way of solving this very important problem in secondary education.

One of the very first attempts to work out a new plan of administration is reported by Principal Keller, of the Manitowoc (Wisconsin) High School. In reporting his experiment, Mr. Keller says:

> It is clear that we must reach outside the school to get the grip on our boys and girls which we must have to get lasting results, not so much as to mind training, but as to heart training.[1]

Mr. Keller has realized the principle of natural instinct and says that the way to begin is to take such interests as the students show

[1] Paul G. W. Keller, *School Review*, XIII (1905), 10–14.

and develop them, thus building up activities which will take most of their leisure time. His organizations are based on that principle:

1. For those interested in expression—an expressive Reading Club, under the direction of the teacher of English.

2. For those interested in music—Orchestra, Boys' Glee Club, Girls' Glee Club, under the direction of the teacher of music.

3. For those interested in business activities—management of school paper and athletic teams.

4. For those interested in literary work—Associated Press Club, for clipping news, pictures, etc., under the direction of two members of the faculty.

5. For those interested in athletics—Athletic Association and teams.

6. For those interested in entertainment—Lecture Bureaus managed by students under faculty supervision.

In this experiment we see two innovations, the appeal to interests and the use of the faculty sponsor system.

A plan of administration that was worked out about the same time as the Manitowoc plan was described in an address by the principal of Erasmus Hall High School, in Brooklyn, before the National Education Association in 1910. The speaker among other things said:

In no school in the country is there a greater number of student activities than in the Erasmus Hall High School. Since its foundation it has welcomed every organization and every activity the purpose of which was a good one. The policy of the school is uniformly one of approval and encouragement, the only restriction being that a member of the faculty be selected to be responsible in a general way for the organization.

The presidents of the various classes and organizations have been organized into a Congress of Presidents. The work of the different organizations is unified in the General Organization, which finances the various activities, and is composed of practically the entire student body. All the usual evils are removed by this General Organization control. Abuse of privilege or hostility is eliminated. The principal believes thoroughly in all the various forms of extra-curricular student activities.

The results of the policy are noticeable. (1) There is a fine personal and friendly spirit existing between faculty and students. (2) There is a great spirit of loyalty to the school on the part of students and graduates. (3) There is a very small percentage of school mortality. The teachers by entering heartily into the work have been amply repaid. The pupils have a better attitude toward teachers who have worked with them in their outside activities.[1]

[1] Wm. R. Lasher, *Proceedings of the National Education Association* (1910), pp. 445–50.

A number of steps in advance are seen here, especially in the attempt at unification through the Congress of Presidents and the General Organization, and in the close faculty supervision.

The Trenton (New Jersey) High School, under Principal A. Wetzel, worked out and adopted with great success its faculty director system. The principal describes its workings and its success:

> Every student organization in our high school is under the care of a faculty director. Of course, the success of this arrangement depends upon the wisdom and tact he displays. If he poses as an autocrat, he will get into trouble, and so will the organization, but if he acts as an elder brother and advisor, the pupils will soon see that the arrangement works to their benefit and will accept the arrangement as most satisfactory.[1]

To ascertain the feelings of the students concerning the office of faculty director, Mr. Wetzel asked a number of them to state their opinions in writing. The following were given as advantages of the faculty director:

> For literary societies:
>
> 1. It results in serious effort to carry out the purposes of the society; it elevates the work to a dignified plane.
>
> 2. The pupils receive valuable criticism from the faculty director; they accept criticism more readily from him than from fellow-pupils.
>
> 3. Pupils cannot shirk and allow a few to do all the work.
>
> For high-school magazine:
>
> 1. Pupils are more willing to submit articles for the school paper, for with a faculty advisor they know their names will not appear in connection with a discreditable performance.
>
> For athletics:
>
> 1. The withdrawal of the faculty director would result in a shortage of funds.
>
> 2. Our athletic director does not let our enthusiasm at the beginning of the season get too strong, but makes it extend throughout the year.

Surely these student answers are the best possible arguments for the success of careful faculty supervision. The warning concerning the temperament required in a faculty director should be noted. We have already observed that schools find it very difficult to secure teachers capable or willing to do this work, especially without remuneration.

[1] A. Wetzel, *School Review*, XIII (1905), 429–33.

Prescott, Arizona, was the first school to report the development of informal social gatherings. In addition to the various athletic games, the school has a number of informal musicals—gathering groups around a piano, and every Fiday afternoon holds an informal dance for all the school.

Miss Gibbs, in reporting this experiment, says it has two desirable results:

> (1) A spirit of democracy is fostered, which is very important in this era of class distinction and class struggle, and no institution is better fitted to bring it about than the public high school; and (2) it occasions a very desirous attitude between pupils and teachers.[1]

The University High School, in Chicago, was also active early in developing the informal social life. Extra-curricular activities have always received careful attention and the school has always been noted for its wealth of activities and its plan of careful faculty supervision. The main feature of its plan is the use of faculty committees. Principal Johnson describes the scheme as follows:

> All the activities are in charge of four faculty committees: (1) Athletics and Games, (2) Literary Clubs, (3) Science and Arts Clubs, (4) Student Publications. The following rules have been adopted:
>
> 1. All clubs must have faculty advisors.
> 2. No club can hold its meetings in the evenings.
> 3. New clubs to be formed must obtain the approval of the appropriate faculty committee.[2]

It is thus apparent that all activities are under careful supervision. The school publishes a manual of rules or *Students Handbook* which can be secured by addressing the principal. The school is unique in having a clubhouse for boys and clubrooms for girls. There are also Friday afternoon informal dances.

Jesse B. Davis, principal of the Central High School of Grand Rapids, Michigan, has probably come the nearest to working out a closely unified and correlated plan of administration. His plan may be briefly outlined as follows:[3]

[1] Louise Gibbs, *School Review*, XVII (1909), 634–37.

[2] F. W. Johnson, *School Review*, XVII (1909), 665–80.

[3] This plan is described more fully in Mr. Davis' book, *Vocational and Moral Guidance* (Ginn & Co.), pp. 119 ff. A copy of the printed rules governing extra-curricular activities can probably be secured by addressing Mr. Davis.

Advisory Board.—Every society or organization has its advisory board, consisting of two teachers who are chosen by the pupils and approved by the principal, and of two or more students, according to the size of the organization. The teachers on the board act as leaders. The principal is a member of the board ex officio.

Advisory Council.—The teachers on the various boards may be brought together by the principal as an advisory council to deal with difficult problems and determine the general social policy of the school.

Student Council.—The students who are members of the various boards, and also certain students chosen at large to represent those who may not be members of any society, act as a student council. This council is used to secure the good will and loyal support of the general student body for the administration of the school.

Leadership Clubs.—The principal calls together the boys of the student council and the lady vice-principal, the girls, to discuss in an intimate way the problems of leadership.

All activities are classified into five groups: (1) the Academic Group, (2) the Arts Group, (3) the Athletic Group, (4) the Social Group, (5) the General Group. No pupil is allowed to belong to more than one organization under the same group at the same time. No pupil is allowed to hold office in more than one organization at the same time.

This is the most effective plan I know in providing for a control of student participation so as to prevent a few students from monopolizing all the activities and keeping others out altogether.

Edward Rynearson, principal of the Fifth Avenue High School of Pittsburgh, Pennsylvania, has worked out, as a solution for this same problem of limited participation and overloading, the following scheme of majors and minors:

1. In order that the activities may be selected with discrimination, they are grouped as major and minor activities.

Major	Minor
Baseball	Camera Club
Basket-ball	Commercial Club
Class play	Debating Society
Debating teams	German Club
Football	Journal staff
Journal staff	Reporters
Business manager	Literary Society
Editor-in-chief	Mathematics Club
Literary editor	Penmanship Club
Soccer football	Technical Club
Society play	
Swimming team	
Track	

2. A pupil whose scholarship, strength, and conduct permit, may belong to one major and two minors concurrently, or to three minors concurrently. No pupil may belong to more than one major at the same time.

V. E. Logan, principal of the high school at Armour, South Dakota, is experimenting with a unique plan of compulsory participation. In a personal letter, he describes the plan, as follows:

Each teacher has charge of at least one branch of student activities and gives a grade in it just the same as in any other course. A very careful record is kept, and this is copied into the permanent record.

Each year a student is required to make one credit in student activities along with the regular academic work. Failure to do this results in an incomplete record for the year just the same as a failure in any other course.

This year we have allowed one half a credit on each of the following: football, boys' basket-ball, boys' glee club, girls' basket-ball, girls' glee club, physical training, and program. The program is rather unsettled. We allow a student to give a reading or several of them can give a little play for which they get whatever credit we think it worth. Usually they are given a half-credit for program. This work is done at the regular assembly period.

Some of the experiments consist, not so much in the organization of a scheme of administration, as in the cultivation of a certain spirit. Miss Anna Wilson, of the high school at Crawfordsville, Indiana, writes of a plan there which might aptly be called the "family idea."

It has ever been my desire to make the high-school days the most hopeful and happy of all days, and our school is always spoken of as "the family," a possible idea with an enrolment of between three and four hundred. We have at least three "family reunions" a year, when as many as possible of our college "older brothers and sisters" and those about us come back to sing with us "Auld Lang Syne" and celebrate our triumphs. Those occasions are at the beginning of the year when the "younger children" (the Freshmen) are introduced and welcomed and the college people are wished success for the year's work, at the Christmas holidays, and at Commencement week, with the farewells to the Seniors and the Alumni Banquet.

Everything exists for the good of the family as a whole, and most difficulties are settled in "family conferences." We meet as a family for devotional exercises twice a week. Every two weeks we have meetings of boys and girls separately, to consider and discuss questions of health, morals, proper behavior, etc. The boys have their athletic teams, and of course we have literary and debating societies, press club, glee club, orchestra, and chorus—besides a committee on social affairs.

The high schools of Detroit, in a somewhat similar manner, have been developing a family spirit by the use of their "house" scheme of organization. J. Remsen Bishop, principal of Eastern High School, writes:

> In some of our high schools, the "House" idea prevails, the pupils being gathered into groups, segregating the sexes. At Eastern High School, however, the policy is to avoid such separation. Our grade-room principals are men and women of keen insight and warm sympathies. They are really friendly advisors to their pupils over whom they have charge, in addition to being executive officers. This seems to bring about a family feeling and many group activities develop from time to time.
>
> You inquire about our school organizations. We have all the usual organizations and activities, but our chief endeavor is to develop the social life of the school through what we call "grade-room parties." We have six grade rooms in this school, averaging two hundred to the room. The grade principal then appoints a committee to manage the affair. The committee sends the invitations to faculty and parents; it arranges for music and refreshments, and in general the members have excellent practice in perfecting the details of such an entertainment. The benefits observed so far by the teachers are an improvement in the social manners of the children, and a more cordial feeling toward the teachers of the school on the part of the pupils.

Many schools are coming to use the plan known as the "sponsor" system of faculty supervision. This plan has been utilized to its fullest extent and perhaps has been most successful in the Kansas City (Kansas) High School. Here every one of the innumerable organizations and activities is under the complete control of a member of the faculty, known as the sponsor. I give here a few of the organizations from the sponsors of which I have received complete reports concerning their work: the Nature Club; the German Club; the Classical Club (Societa Classica); Sketch Club; Le Cercle Français; the Boys Club; Radio Association.

Chester B. Curtis, principal of the Central High School, St. Louis, which uses this same scheme, in commenting on the plan in his school, points out the difficulty prevalent with this plan. He writes,

> Each organization has a sponsor who is my representative and at the same time directs the organization to the extent of his or her presence and by giving advice.
>
> Extra-curricular activities require a vast amount of time for teachers whose services are *voluntary*. We have no means of compensation. Sponsors are

usually younger members of the faculty anxious to do an extra bit to aid in the always hoped-for promotion.

J. F. Wellemeyer, principal at Oklahoma City, Oklahoma, writes concerning his attempt at unification through a "general club chairman" and a "central committee":

All work is under faculty committees with large powers. That is, the faculty sponsor or chairman always has the veto power. There is a general club chairman and a central committee which passes upon and unifies all financial affairs.

Dates are placed upon the calendar by authority of the principal alone. Our system is almost perfect.

Several schools have organized school banks, and a few are using these as a centralizing agency for the financial side of extra-curricular activities. George Buck, principal of the Shortridge High School, Indianapolis, writes concerning their plan there in this respect:

All financial affairs are managed by a voucher system, through our rental library office, which is in charge of the Commercial Department.

A very interesting scheme has just been inaugurated at the high school in Little Rock, Arkansas to prevent the too rapid multiplication of activities. It might be called the "charter plan."

No society or class is allowed to form an organization until a charter is granted by the principal.

At West Technical High School, Cleveland, a dual form of administration has just been adopted that somewhat approaches my ideal of a perfect scheme. The principal writes:

The organization of all boys' activities is under the direction of a Faculty Manager, who schedules all games and transacts all business. Girls' activities are similarly organized under a woman Faculty Manager.

This scheme approaches the ideal of having one person, other than the principal, in charge of all extra-curricular activities, the plan which I shall discuss later.

These experiments in the administration of extra-curricular activities which I have reviewed have accomplished much in the way of solving certain of the problems, but each of them has a vital defect. All fail in one respect—they have no *one* responsible head

over all these organizations, around and in whom they may be unified and centered. The principal cannot act in this capacity. There are too many other administrative and executive duties upon

TABULAR VIEW OF EXPERIMENTS IN ADMINISTRATION OF EXTRA-CURRICULAR ACTIVITIES

School	Principal	Characteristic Feature
Manitowoc High School Manitowoc, Wis.	Paul G. W. Keller	Appeal to Natural Interests Use of Faculty Supervision
Erasmus Hall High School Brooklyn, N.Y.	William R. Lasher	Congress of Presidents General Organization
Trenton High School Trenton, N.J.	A. Wetzel	Faculty Director
Prescott High School Prescott, Ariz.	Louise Gibbs	Informal Social Group
University High School Chicago, Ill.	F. W. Johnson	The Faculty Committee The Clubhouse
Central High School Grand Rapids, Mich.	Jesse B. Davis	Attempt at Unification Advisory Boards
Fifth Avenue High School Pittsburgh, Pa.	Edward Rynearson	Major and Minor Plan
Armour High School Armour, S.D.	V. E. Logan	Compulsory Participation School Credit
Crawfordsville High School Crawfordsville, Ind.	Anna Wilson	The School as a Family
Eastern High School Detroit, Mich.	J. Remsen Bishop	The "House" Idea
Oklahoma City High School Oklahoma City, Okla.	J. F. Wellemeyer	General Club Chairman Central Committee
Shortridge High School Indianapolis, Ind.	George Buck	The School Bank
Little Rock High School Little Rock, Ark.	J. A. Larson	The School Charter
West Technical High School Cleveland, Ohio	R. L. Short	Faculty Manager

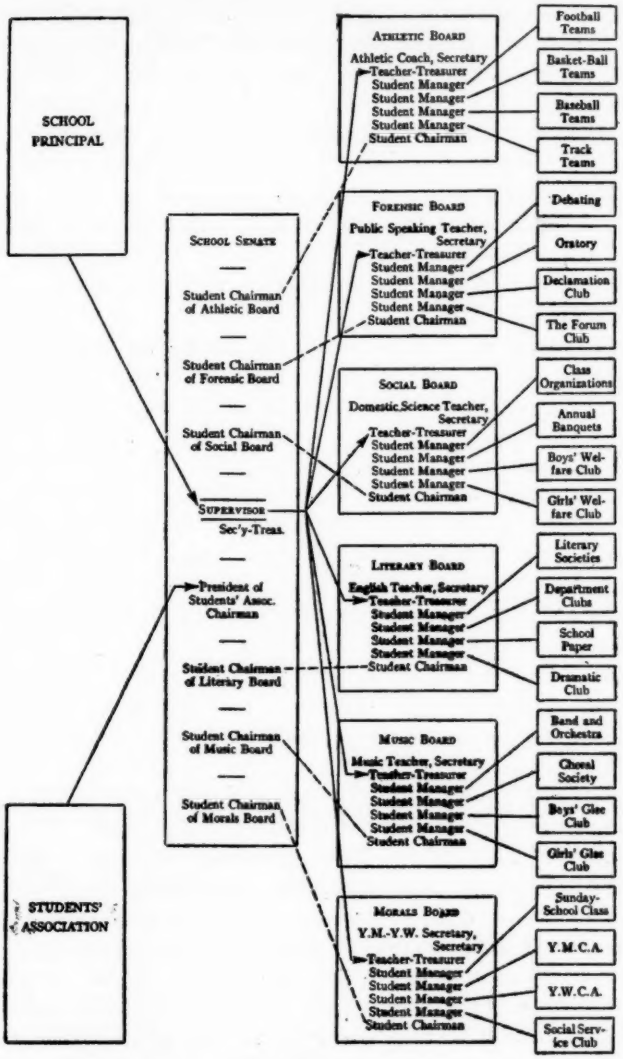
his shoulders. Our study of the extent and the evils of extra-curricular activities seems to make clear that there is a vital need for a new administrative officer in the high school—an officer who may be called a supervisor of extra-curricular activities, and who will devote all his time and energy to the direction and control of these valuable aids to educational training.

Bearing in mind the evils that have been found to exist, and in the light of the experience and experiments in other schools, I have set about to devise a solution. We need some plan of centralization and unification in which one person of the proper training and temperament would have complete and direct supervision over these activities, and yet where policies could be determined by the principal and the students. We have been helped in our work by a study of the city manager plan of municipal government. Our plan is modeled somewhat after the city manager plan. The principal and students together form the policy-determining body, but an expert supervisor performs all the executive functions, assisted by a small representative senate, the work being carried on under his direction through a number of closely correlated boards. The extent to which the work is unified and systematized may be seen by a glance at the chart which has been prepared to illustrate the scheme.

The general organization of the student body, of which every student is automatically a member, is known as the Students' Association. Each year this body elects a president and this office is considered the highest honor that can come to a member of the student body. The president of the Students' Association acts also as chairman of the School Senate.

The School Senate is the unifying body of the entire scheme. In this organization are centered all the extra-curricular activities of the school. It is composed of eight members, the six student chairmen of the six boards, the president of the Students' Association who acts as chairman, and the Supervisor of Extra-Curricular Activities, who acts as secretary-treasurer of the Senate.

The supervisor is the keynote to the whole scheme. He must be, beyond everything else, a leader of leaders, with tact, sympathy, and attractive personality. He must be a student of modern aims and purposes in education, with a broad social vision. He must have the faculty of getting down into the lives of the boys and girls so that they will trust him and have utmost confidence in his advice. He must be alive to his opportunity of training the students for physical, social, moral, and civic efficiency—to mold them for well-rounded and useful lives.



A PLAN FOR THE ADMINISTRATION OF EXTRA-CURRICULAR ACTIVITIES

In the small school the supervisor could do the actual coaching of the various activities, but in the larger schools specialists will work under his direction along the lines of each of the various activities.

There are six boards with four activities under each board:

1. Athletic Board—football, basket-ball, baseball, track.
2. Forensic Board—debating, oratory, declamation, forum.
3. Social Board—class organizations, banquets, Girls' Welfare Club, Boys' Welfare Club.
4. Literary Board—literary societies, department clubs, school paper, Dramatic Club.
5. Music Board—band and orchestra, Choral Society, Boys' Glee Club, Girls' Glee Club.
6. Morals Board—Sunday-school classes, Y.M.C.A., Y.W.C.A., Social-Service Club.

Each board is made up of seven members: the student managers of the four activities under the direction of the board, the student chairman, appointed by the president of the Students' Association, a teacher appointed by the supervisor, who acts as his financial agent, and the coach or director from the faculty, who acts as secretary and arranges all schedules subject to the approval of the supervisor who is a member ex officio of all boards.

One of the most valuable results of this scheme of having certain teachers interested is the correlation of the outside activities with various subjects of the school curriculum. Such a correlation is plainly seen in the fields of music, drama, and journalism. These subjects belong to legitimate and essential fields of academic training and yet they relate themselves directly to the social life of both the school and the larger community unit. Other examples of possible correlation should be easily recognized.

The difficult problem of finance is handled very easily under this scheme. Each board draws up a budget at the beginning of each year based on its probable financial needs. The supervisor, on the basis of these budgets, with the assistance of the Senate, fixes the rate of assessment to be laid upon the student body and makes the appropriation for each board. The board apportionment is paid out at the discretion of the board, but the money is handled

by the supervisor and only paid out on signed orders from the financial agent on the board. A continual check is thus kept on all expenditures.

During its year of operation this plan has been exceptionally successful. The evils mentioned above have disappeared, and tendencies toward others have been checked. Such a plan ought to be exceedingly successful anywhere in giving the training that should come from participation in extra-curricular activities, without incurring the evils which we found to exist in our schools. I am confident that it can be applied to any size or type of school and that it will solve this intricate problem of secondary-school administration.

Our plan has not only proved successful in practice, but it has the sanction of expert opinion. In the report of the *Cleveland Educational Survey*, published last year, Mr. George Johnson, who conducted the survey of the recreational aspects of the school system, after stating that the administration of recreation in the schools included practically the whole public-school corps from the superintendent to the janitor, an organization loose and indefinite, without interrelations or mutual responsibility, recommends that

> in the Cleveland school system, as in that of every large, progressive city, there should be an officer whose entire time should be devoted to giving a social interpretation to educational work, and an educational interpretation to social work. He should know the general fields of sociology and education and should know intimately the special fields of play and recreation. He should be to the social functions of the school what the superintendent is to the academic work.[1]

That gives us a clear and adequate statement of the function of the officer in the high school whom I have designated as the Supervisor of Extra-Curricular Activities: *He should be to the social activities of the school what the principal is to the academic activities.*

[1] George Johnson, *Cleveland Educational Survey*, Sectional Report on "Education through Recreation."

EDUCATIONAL NEWS AND EDITORIAL COMMENT

Lessons in Community and National Life

The White House, Washington, D.C.
August 23, 1917

To School Officers:

The war is bringing to the minds of our people a new appreciation of the problems of national life and a deeper understanding of the meaning and aims of democracy. Matters which heretofore have seemed commonplace and trivial are seen in a truer light. The urgent demand for the production and proper distribution of food and other national resources has made us aware of the close dependence of individual on individual and nation on nation. The effort to keep up social and industrial organizations in spite of the withdrawal of men for the army has revealed the extent to which modern life has become complex and specialized.

These and other lessons of the war must be learned quickly if we are intelligently and successfully to defend our institutions. When the war is over we must apply the wisdom which we have acquired in purging and ennobling the life of the world.

In these vital tasks of acquiring a broader view of human possibilities the common school must have a large part. I urge that teachers and other school officers increase materially the time and attention devoted to instruction bearing directly on the problems of community and national life.

Such a plea is in no way foreign to the spirit of American public education or of existing practices. Nor is it a plea for a temporary enlargement of the school program appropriate merely to the period of the war. It is a plea for a realization in public education of the new emphasis which the war has given to the ideals of democracy and to the broader conceptions of national life.

In order that there may be definite material at hand with which the schools may at once expand their teaching, I have asked Mr. Hoover and Commissioner Claxton to organize the proper agencies for the preparation and distribution of suitable lessons for the elementary grades and for the high-school classes. Lessons thus suggested will serve the double purpose of illustrating in a concrete way what can be undertaken in the schools and of stimulating teachers in all parts of the country to formulate new and appropriate materials drawn directly from the communities in which they live.

Sincerely yours,

Woodrow Wilson

In response to this call Mr. Hoover and Commissioner Claxton are enlisting the service of educators who, under the auspices of the Bureau of Education, are preparing lessons in community and national life. The first of these appeared on October 1, and others will follow on the first of each month up to and including May 1. The lessons are issued in the form of circulars of the Bureau of Education, single copies five cents, each additional copy three cents, $2.00 per 100, and $5.00 per 500. The lessons are published in three sections: A for the upper three classes of the high school, B for seventh, eighth, and ninth grades, C for fourth, fifth, and sixth grades.

The material consists primarily of reading to be put directly into the hands of pupils. In each case the text deals with selected topics, followed by questions and suggestions as to topics which may be studied in addition. Each lesson is accompanied by references to supplementary reading-matter.

The following suggestions are offered with regard to the introduction of the lessons into the program. They can be properly introduced as part of the work in reading classes and as subject-matter for discussion in English classes. In this connection it may be noted that the subjects taken up are commonly suitable for compositions. Secondly, the close correlation of the material with geography and history justifies the use in the grades of at least one hour a week drawn from the allotment made to those subjects. Thirdly, where a course in civics or a course in current topics is now given in the school, the lessons are available as part of the regular work. Fourthly, it is suggested that an independent place on the program for a course of this type is amply justified even in the crowded curriculum now given.

The first circular deals with types of social organization. About one-fourth of each of the sections of this circular utilizes the experience of the war to show how interdependent are the members of a modern social group. These "war lessons" take up in the concrete such topics as the following: what the war has used up; what the war prevents men from producing; new needs which grow out of the war and are met by invention.

The section of the circular prepared for use in the upper classes of the high school presents in a series of concrete descriptions the contrast between the life of a frontiersman and the life of a modern city.

The section for the seventh and eighth grades and the first year of the high school describes the life of a Colonial family as an example of a fairly independent economic unit. Following this is a description of a

modern factory and the community about it, and a description of a town produce market.

The section for the lower grades deals with the things which society makes and uses. The specific topics in the first circular are the making of cloth in a Colonial family, the water system of a town, and the collection, refinement, and use of mineral oils.

The second circular deals with production and conservation. The series as a whole deals with the economic, sociological, and civic aspects of modern life.

An edition of 12,500 copies of the first circular will be published for distribution by the Bureau of Education. Subsequent circulars will be published in editions of 3,000 copies.

The Superintendent of Public Documents is prepared to supply reprints of each of the sections of 32 pages, when these are ordered in bulk. The sale price of these reprints is to be found on the order card. Small schools are asked to consolidate their orders through the county superintendent or through the state department of education.

It is recommended that teachers secure for their own use each month the three sections. Those in the lower grades will find material in the sections designed for the upper grades which will give them the principles that they should incorporate into their teaching. In like manner the teachers in the upper grades will find illustrative material in the section prepared for the lower grades.

The arrangements provided make it possible to supply during the year to each pupil 256 pages of reading-material at an aggregate cost of eight cents, and to supply to a teacher 768 pages of material for twenty-four cents.

A Conference of High-School Teachers Concerning Marks

The annual school report for 1917 of the town of Stamford, Connecticut, includes a summary of the regulations concerning the marking system used in the high school. The regulations were formulated by means of a series of conferences of the high-school teachers themselves.

Regulations Concerning Marks

General Statement: What?

Mark: Native present ability and accomplishment.
In the consideration of which—take account of:
1. Quantity of accomplishment.
2. Quality of accomplishment.

3. Improvement (but only if measured by objective scale or standard).
4. Evidence of personal, specific, and serious purpose.
5. Evidence of initiative.
6. Evidence of supplementing knowledge.
7. Thinking—organization of ideas.

The Function of Marks: A Rule:

Frequent marks should be used solely as a guide and check to the final term-mark judgment.

Rule: The term mark expresses the teacher's answer to the questions: (*a*) Is this pupil able to proceed with this study or should he repeat? (*b*) Not "what has he done?" so much as "what *is he able* to do as [merely] indicated by past performances?" (*c*) Not "has he done *my* course?" but "is he capable of further growth?"

Tentative Definition of "Pass Mark":

"A mark standing for the teacher's judgment that the pupil has done creditably enough, both in amount and quality, to progress or to take work in advance—but no better."

"100 per Cent":

Tentative definition of "100 per cent": "Mark given when, in the opinion of the teacher, a definite assignment has been perfectly performed."

Comments: 1. A term's "definite assignment" implies all—the sum total—of the periodic assignments. The 100 per cent mark is therefore very rarely attainable for a term.

2. This mark, when applied to a periodic assignment (e.g., daily recitation) shall not be impaired by any fault, as in English, that should be charged to the account of any other subject (e.g., English) unless such extraneous fault casts a cloud of doubt upon the perfection of the work in the subject under consideration.

Zero:

Since some amount of "ability" and the factors noted in Par. 1 must always be somewhat present, a mark of zero is impossible.

"D" or Deficient:

A mark of "deficient" has nothing to do with the teacher's judgment of marking as stated in Par. 1—i.e., "ability plus accomplishment."

The pupil receiving such mark is in exactly the status of one who has never attempted the "definite assignments." "Deficient" means a deferred judgment of the teacher. Such judgment, when finally made, may prove to be "pass" or "failure."

Upon the records of the office, "deficient" will have the force and significance of "failure." This mark should not be considered in averaging, analyzing, or plotting marks of ability, the judgment of ability being deferred.

"R," refused or rejected, may be used in cases of written exercises that the teacher declines to consider. It may be used instead of "D" in such cases.

Scale and Steps:

a) Sixty is the most feasible pass mark on a percentile basis. Seventy-five being that in present use, however, it would not be wise to re-adopt the former scale; and it does not make any difference.

b) In term marks or for office and home records use:

Failure	Inferior	Medium	Superior	Excellent
X or D	P	F	G	E
Below 75	78	84	91	97

c) In personal record book, use any preferred scale, but for purposes of translating to office reports, use:

93¾ to 100=E or 97
87½ to 93¾=G or 91
81¼ to 87½=F or 84
75 to 81¼=P or 78
Below 75 =X or Fail

Mark by Relative Rank:

Marks should indicate RELATIVE RANK.

Some suggestions for marking:

a) Until teachers become familiar with the steps and how to use the scale, frequent department meetings should be held, to assort papers in five groups according to the scale marks. As many judgments as possible should pass upon the papers. Five papers, representing respectively the averages of the five groups as determined by the average of the teachers' judgments, should be set aside to serve as a tentative objective standard-scale until a better can be substituted.

b) Exchange of marks and papers with other schools and departments should be effected.

c) Teachers should plot curves of their marks at least twice a year, the best self-corrective method possible for faults in marking. The following indicates the usual distribution of abilities:

Excellent—3 to 5 per cent of class.
Good—about 20 per cent of class.
Medium—45 to 50 per cent of class.
Poor—about 20 per cent of class.
Failure—3 to 12½ per cent of class.

d) The principal should require explanation of each case of eccentricity or abnormality in marks.

Punitive Marks:

Punitive marking is intolerable and disallowed.

Faulty English and 100 per Cent

Comment No. 2, under the topic "100 per Cent" of the Stamford report reads:

> This mark (100 per cent) when applied to a periodic assignment (e.g., daily recitation) shall not be impaired by any fault, as in English, that should be charged to the account of any other subject (e.g., English) unless such extraneous fault casts a cloud of doubt upon the perfection of the work in the subject under consideration.

By this resolution the teaching staff of the Stamford High School appears to have set itself deliberately against one of the current progressive ideas in the teaching of the mother-tongue. That idea is that language habits are best acquired and maintained in connection with content subjects; that the proper place to teach composition is in close association with the written and spoken work of content subjects. With this idea in mind many a progressive English department is welcoming themes written by their pupils in classes other than English. Many a farsighted principal is insisting that all his teachers regard themselves as responsible for a minimum of correctness in the mechanics of writing and speaking. Some high schools, indeed, have gone so far as to abolish all but one or two composition classes, substituting small laboratory groups of pupils, arranged and classified according to their composition needs. Moreover, their needs are determined by the habits of expression which the pupils manifest in all of their classes.

It is to be regretted that there are still to be found in some schools waspish teachers of history, civics, Latin, and the rest, who stoutly maintain that they have no concern with English—"that is the business of the English department"—regretted that there are school officials who allow such a spirit to manifest itself. How utterly contradictory to the facts of life such a doctrine is may be seen at a glance. A college professor's lectures on history, and his textbooks on the same subject, if expressed in faulty English, are impaired. A clergyman whose speech is filled with language irregularities is handicapped. A graduate of a commercial department who cannot spell and punctuate is dismissed for incompetency. The idea that a class exercise in any topic can be 100 per cent perfect, in spite of the fact that it contains grammatical errors, is about as sensible as saying that a man is 100 per cent ready for a dinner party, even if his necktie be missing and his shoes unlaced. To be sure, an idea is an idea, a date is a date, a fact is a fact, irrespective of the language in which it is set. But a fact is not a 100 per cent perfect fact

unless it is ready to do something, to produce something, to function efficiently. Presented in faulty English, it does not function as it ought, and therefore cannot be said to be 100 per cent perfect, nor has the writer or speaker deserved a mark of perfect.

But the perpetrators of this resolution may reply that the last clause anticipates just this criticism. Their statement is "unless such extraneous fault casts a cloud of doubt upon the perfection, etc." By assuming that the fault is extraneous they clearly beg the question. A fault in English is not and never can be extraneous to the subject-matter presented. Of course, any sensible man is willing to admit that a fault in English is of minor importance, and that the content, the *data*, the *fact*, the *substance*, is of supreme import. But the most weighty fact in the world (100 per cent perfect in itself), if faultily presented, becomes less than 100 per cent perfect in its functioning relations. Certainly the writer or speaker is below perfection.

Yet there are high-school faculties which still maintain that good English is a matter for English classes alone. They are not so vigorous in proclaiming the opposite; that bad or indifferent English is a matter often found in other classes. Too often teachers of content subjects refuse to supervise the English of their pupils because they don't know how.

Harvard Bureau of Vocational Guidance

According to arrangements recently completed, the Vocation Bureau of Boston has been transferred to Harvard University. With the opening of the present year the title of the bureau becomes the *Bureau of Vocational Guidance*, and its work will be carried on in Cambridge under the direction of the Division of Education. The Graduate School of Business Administration will co-operate in the management of the bureau by appointing two members of its faculty to confer with the Division of Education on all important plans and activities. Mr. Roy W. Kelly, formerly principal of Fall River Technical High School, becomes director.

The Vocation Bureau was established in Boston in January, 1908, by a group of persons who were interested in education and social service. The idea of an organized effort to aid young people in choosing an occupation, preparing for it, and developing efficiency in it, originated with Professor Frank Parsons, of the Law School of Boston University, nearly twenty-one years ago, while he was preparing his book, *The Ideal City*. Successful experiments at the Civic Service House, in

Boston, led to the raising of funds for the maintenance of a central bureau.

The chief aim has been to prevent those costly and often preventable economic and social wastes growing out of the aimless drifting of thousands through school, through employment, and through life. From modest beginnings a varied and extensive group of activities has developed. Nearly every vocation bureau, or vocational-guidance project now carried on in this country, has profited through consultation with the Boston bureau. It was under its auspices that the work was first organized in the Boston schools. A wide correspondence is carried on between the bureau and institutions interested in vocational guidance.

The transfer of the bureau to Harvard comes about very naturally through the fact that Professor Paul H. Hanus, of the Division of Education, has acted as chairman of its Board of Directors since the inception of its work and has aided materially in developing the bureau. The Harvard bureau will maintain all the important activities of the former work and add such as it may be able to attempt under new auspices and enlarged support. It now has the following definite aims:

To carry on occupational research and to publish material giving information concerning occupations.

To continue to promote the movement for vocational guidance and to serve as a center of information on vocational guidance.

To give personal counsel regarding the problems of choosing, preparing for, and entering on a vocation.

To conduct investigations in schools or other institutions, in various lines of business, and in the industries with a view to determine the need and suggest plans for vocational guidance.

To train vocational counselors for service in schools, in institutions, and in employment departments.

To continue, so far as opportunity may offer, the co-operation, begun by the bureau through its connection with Employment Managers' associations, in solving vocational-guidance problems.

To aid and co-operate with other vocational-guidance organizations.

To be of individual and public service in dealing with the questions of vocational guidance arising from the present war.

A Clearing-House for Education Tests

Kansas State Normal School, Emporia, Kansas, maintains an active Bureau of Educational Measurements and Standards. The bureau has

just published a useful pamphlet, entitled *Announcements and Price List*, in which are scheduled in convenient form all of the leading scales, nearly thirty in number, used in measuring almost all the subjects of the elementary school and high school. Publishers and prices are listed as well. Still better, the bureau seems to have established itself into a sort of clearing-house, or central store, from which very many of the scales may be purchased directly.

The Smith-Hughes Bill Goes into Operation

The Smith-Hughes bill on vocational education, passed by Congress on February 23, 1917, goes into operation in 1918. A Federal Board is created, consisting of Secretaries Wilson, Houston, and Redfield, with Commissioner Claxton as secretary, and three lay members, namely a representative of manufacturing, of agriculture, and of labor interests. This board is co-operating with a state board of vocational education, in every state which sees fit to come under the operation of the law. A federal subsidy for vocational training appropriates dollar for dollar for every appropriation by a state. The funds thus obtained must be spent directly for salaries, and in no case can more than half of the salary be paid out of these funds. The purpose of the funds is to equip men and women to work successfully in a trade, and the funds will not be permitted to be used in any other way. The funds may be used for three purposes only: (*a*) salaries of teachers, supervisors, or directors of agricultural education; (*b*) salaries of teachers of trade, industrial subjects, and home economics; (*c*) the training of teachers for agriculture, home economics, and vocational subjects.

Various states indicate the amount of federal aid that will be received the first year: for example, Indiana, $45,000; Oregon, $15,000; Nebraska, $18,000; Wisconsin, $39,000. Provision is made for a maximum allotment after five years based on the ratio of the state's population to the total population of the United States.

Soon after the Smith-Hughes bill was passed the *School Review* pointed out a serious danger involved, even if the possibilities were not contemplated by the sponsors of the bill. The danger lies in the fact that the federal government is seemingly throwing its tremendous influence in the direction of pure industrial skill as an independent aim in education. Indeed the entire emphasis of the bill seems to point to a dual system of schools—two systems side by side as in Germany, one for the classes and the other for the masses. It was just this dual system,

advocated by Cooley after a study of German schools, which Illinois refused to adopt; and just the system which Wisconsin has adopted. Apparently a great democratic undertaking to provide vocational education, intended to fit children directly for life-work, the plan becomes decidedly undemocratic if the schools themselves become a means of emphasizing class distinctions.

Now there can be no doubt that the danger predicted is making its appearance as the various states hasten to avail themselves of the federal funds. The public press is filled with announcements of new schools, called vocational schools, which are being projected, in addition to the high schools already established. To be sure most of the states have had the good sense to appoint state boards which are in full co-operation with the existing state educational authorities. State superintendents are almost invariably the chairmen of state vocational boards. This apparently guarantees that the vocational interests are to be administered in harmony and co-operation with the cultural interests of the various communities. Wisconsin alone has the unenviable distinction of possessing a state board of industrial education, quite distinct from state educational agencies. In spite of the apparent safety against general adoption of a dual system, we cannot help fearing that the many new vocational schools projected may point the way in a harmful direction. Let us have plenty of great vocational high schools; but let them remain integral parts of a unified state and municipal public-school system—and let every vocational school continue, like Woodward in Cincinnati and Senn in Chicago, to prepare its pupils for citizenship in the very same building in which they prepare for industry.

CURRENT EDUCATIONAL WRITINGS

I. A BRIEF REVIEW OF THE CURRENT LITERATURE RELATING TO HISTORY AND THE TEACHING OF HISTORY IN JUNIOR AND SENIOR HIGH SCHOOLS

R. M. TRYON
University of Chicago

At the outset let us explain some of the terms used in the title of this review. By current literature is meant anything that has appeared during the past ten or twelve months dealing with material included in the remainder of the title. History and the teaching of history includes texts, pamphlets, courses of study, and articles dealing with the history material suitable for students in the last six grades of the public schools, and the method of presenting this material. The terms junior and senior high school are too well known to need explaining.

TEXTBOOKS

During the period covered in this discussion two texts in junior and six in senior high-school history have appeared. The two for the junior high school deal with the European background of American history, both of them following rather closely the recommendations of the Committee of Eight for the sixth grade.

Woodburn and Moran's text[1] opens with a chapter on "The Dawn of History," a valuable addition to the suggestions of the foregoing committee. This chapter is followed by twenty-five well-written others. These chapters begin with the rise of the Greeks and end with the early attempts of the English to found colonies in North America. The book is well written; it contains many excellent illustrations and maps, questions and suggestions to the pupil, and a pronouncing list of words at the end of each chapter. The main topics in each chapter are indicated by bold-face type. These topics are usually treated with sufficient length to save the book from the encyclopedic treatment too common in history texts. On a whole the book is attractive, accurate, and will no doubt prove a strong competitor against the dozen or so others now in this field.

Jennie Hall's book is made up of three main parts, viz.: "The Ancient World," "The Newer Nations," and "Beginnings of Our Own Times." The

[1] Woodburn and Moran, *Introduction to American History*. Longmans, Green, & Co., 1916; and Jennie Hall, *Our Ancestors in Europe*. Silver, Burdett & Co., 1916.

titles of these parts suggest their contents. One hundred and forty pages are devoted to Part I, 104 to Part II, and 82 to Part III. The list of illustrations is a very long one. There is also a considerable number of maps and plans scattered throughout the book. At the end of each chapter one finds a long list of questions of doubtful value. Following the last chapter is a list of important dates, which is too long to be of any value to the ordinary teacher. The omission of the bold-face paragraph headings, for which are substituted marginal headings and large topic headings run across the page, is quite a relief. To the writer's thinking the marginal headings could and should have been omitted. Generally speaking the make-up of the text is attractive, and the contents deal with concrete material well in the range of the understanding of the pupils for whom the book was written. Two of the texts for the senior high school deal with modern European History,[1] one with early European history,[2] one with ancient,[3] one with mediaeval and modern,[4] and one with the history of the United States.[5] In the publication of Knowlton and Howe's *Essentials in Modern European History*, Longmans, Green, & Co. have completed a two-book series of European history, the first volume of which appeared in 1912. This second volume is a noticeable improvement over the first one. It opens with two excellent chapters on the social, political, industrial, and commercial conditions in Europe in the early eighteenth century, and closes with one on the advance of democracy since about 1870. Much attention is given to the topics in European history which have a direct bearing on the history of our own country. The book presents no general organization of the field covered. The chapters simply follow each other in co-ordinate relation with a continuous numbering of the main topics throughout the book. There is an abundance of marginal headings which detract from, rather than add to, the usefulness of the book as a text. There is a rather long list of maps and plans and a sufficient number of well-selected illustrations. At the end of each chapter one finds an abundance of pedagogical aids in the way of suggested topics and questions for further study, collateral reading with topics and exact references given, source studies, suggestions for map work, map references, and a general bibliography. All of these will be of great value to the teacher who plans to make the book the basis for a year's work in modern history, since the actual material given in the text is not sufficient for more than a semester course.

For a course in European history since the French Revolution there is probably no better text than Hazen's *Modern European History*. The book

[1] Knowlton and Howe, *Essentials in Modern European History*. Longmans, Green, & Co., 1917; and Hazen, *Modern European History*. Henry Holt & Co., 1917.

[2] Webster, *Early European History*. D. C. Heath & Co., 1917.

[3] Breasted, *Ancient Times*. Ginn & Co., 1916.

[4] Robinson, *Medieval and Modern Times*. Ginn & Co., 1916.

[5] Fite, *History of the United States*. Henry Holt & Co., 1917.

opens with two excellent chapters summarizing the conditions in Europe and in France just prior to the outbreak of the Revolution. The last chapter contains material on the European war up to the time the book went to press. Twenty-six good maps in color, three in black, and a long list of illustrations add much to the value of the book. No general organization of the entire field is given, the thirty-four chapters following each other in co-ordinate relation. The system of marginal headings in bold-face type is used rather than the paragraph headings so common in texts of a similar nature. The few pedagogical acts are confined to a list of topics with the exact reference on each at the end of each chapter. These, however, are given in considerable abundance, making possible much reading beyond that given in the text. The part of the book dealing with the French Revolution exists in a separate volume.

The appearance of Webster's *Early European History* adds another valuable text to the growing list already in this field. Schools devoting one year to European history down to 1648 will be interested in Webster's book. It is the writer's judgment that it will prove to be one of the best in its field. Two hundred and ninety-eight pages are devoted to the Orient, Greece, and Rome, and 389 pages to mediaeval history, thus making it possible to devote half of the year to ancient Europe and the remaining half to mediaeval. The organization is by chapters appearing in co-ordinate relation with the big topics in each chapter numbered consecutively throughout the book, there being 240 of these big topics. At the end of each chapter are what are termed "Studies," made up in most part of questions based on the material given in the chapter. No specific reference aids are given in the body of the text. There is, however, in the Introduction a number of pages devoted to "Suggestions for Further Study" which contain a great amount of useful material. As to maps, illustrations, and plates, the book is well supplied. The Appendix contains a long table of events and dates, which will be likely to hinder rather than help the inexperienced teacher.

The texts by Professors Breasted and Robinson are models in the matter of textbook-making. Their content, appearance, and general make-up will please the conservatives in the field of high-school history. They cover the fields in European history proposed in 1898 by the Committee of Seven. It should be said, however, that they deal with what might be termed traditional European history in a fresh and unique manner. Emphasis is placed on conditions and institutions rather than on events. This being true, one finds in them much material that the texts in these fields written ten years ago do not contain. Both the authors and publishers deserve much praise for bringing out these excellent books right in the midst of a transition period in high-school history. They will do much toward keeping our feet on a solid foundation until we make up our minds just what phases of certain new proposals we wish to adopt.

One who has read Professor Fites's *Social and Industrial Conditions During the Civil War* and *The Presidential Election of 1860* would expect a history of the

United States from his pen to contain features not commonly found in high-school history texts in this field. A mere glance through the contents of the book will convince one that Professor Fites has placed much emphasis on the social and industrial development of the country, economic progress, and recent history, more than one-fourth of the volume being devoted to the period since 1865.

The book is divided into eight parts, which for teaching purposes in the high school have impractical names and date boundaries. These, however, will not hinder an experienced teacher who has a teaching organization of his own to follow. The chapter organization follows the plan of giving the names of the big topics in large type and inserting paragraph topics in the margin. The first is an excellent scheme, while the second should be omitted in a book for high-school seniors, whose chief business in reading a paragraph is to find out what the author is talking about therein. The pedagogical aids at the end of each chapter are of four kinds, viz.: general references, special topics, illustrative material, and suggestion questions, all of which will be of much value to the teacher and the student. The few illustrations and maps scattered throughout the text have been well selected. On a whole the book is a valuable addition to the already somewhat long list now in this field.

OUTLINES AND SYLLABI

But few state departments of education issue outlines and syllabi that are of much help to the teacher. New York and New Jersey are exceptions to this rule, especially in the matter of high-school history. The New York State Department of Education has for several years issued an elaborate syllabus of history and civics for the secondary schools. The 1910 syllabus has been revised to October, 1916.[1] This syllabus has been, since it was first published, one of the best on the market. It contains detailed outlines of courses in Ancient History to 800 A.D., History of Great Britain and Ireland, Modern History, Parts I and II, and United States History. Each outline contains excellent suggestions relative to library and notebook topics and map work. The general organization proposed for each course is the best that has come to the attention of the writer.

The high-school social studies including history syllabus issued last year by the New Jersey State Department of Public Instruction[2] contain courses of study in outline as follows: Early European History to 1700 including English History and Colonial American History, Modern European History since 1700 including contemporary civilizations, United States History since 1760, Civic Theory and Practice, and Economics. The pamphlet also contains

[1] *Syllabus for Secondary Schools*, 1910. Revised to October, 1916, "History and Civics." Albany, N.Y.: University of the State of New York, 1917.

[2] *The Teaching of the Social Studies including History.* Trenton, N.J.: State of New Jersey, Department of Public Instruction, 1916.

excellent suggestions relative to helpful books, pictures, wall and authors' maps, globes, and atlases. While the general organizations of the foregoing courses do not seem to the writer the best ones for teaching purposes, yet on the whole the outlines are excellent ones and should be of great service to the teachers of these subjects.

PAMPHLETS, JOURNALS, AND REPORTS

Two reports on history and the teaching of history in the secondary school have been published this year. In the *School Review* for February, March, and April, 1917, appeared in most part a study made by Hugo H. Gold, of the University of Iowa.[1] In Part I of his study Mr. Gold deals with the administration of the curriculum and content of courses in history, the materials for which were taken from 242 of the most recently published courses of study received from 236 cities in 41 states. Part II contains a discussion of methods and material used in high-school history. The data for this part were obtained from answers to a questionnaire received from 135 teachers representing 60 high schools or high-school systems in various sections of the country. While the study contains most of the errors usually found in questionnaire investigations, yet it has many suggestions of considerable value to history teachers. It seems unfortunate that Mr. Gold did not profit from the glaring defects of the study which served as a model for his own.

A more recent report than that of Mr. Gold is the one made by Dr. Leonard Koos which was published recently as chapter v in his *The Administration of Secondary-School Units* (The University of Chicago Press, 1917). This monograph of nearly 200 pages contains a digest and interpretation of facts gathered for that use by the *Committee on the Reorganization of the Secondary School and the Definition of the Unit of the North Central Association of Colleges and Secondary Schools*. The chapter on "History and the Other Social Studies" contains in all probability the most nearly accurate information relating to these subjects in the secondary school that has ever been collected. The method used by Dr. Koos in collecting the data safeguarded his report from many of the customary inaccuracies in studies of this type.

Some excellent material on the teaching of history has recently appeared in two journals.[2] The entire issue of the January, 1917, number of the *Ohio History Teachers' Journal* is devoted to suggestions for the teaching of modern European history in high schools. This material will be of much service to teachers who are struggling with the problem of modern European history. The suggestions Professor Perkins makes are very practical and helpful. This journal is issued in January, March, May, and November of each year. Almost every issue contains material of great value to a high-school history teacher.

[1] Hugo H. Gold, "Method and Content of Courses in History in the High Schools of the United States," *School Review*, XXV, Nos. 2, 3, and 4.

[2] *Journal of Educational Psychology*, May, 1917. Baltimore, Md.: Warwick & York; and the *Ohio History Teachers' Journal*, January, 1917. Columbus, Ohio.

Almost all of the May, 1917, issue of the *Journal of Educational Psychology* is devoted to studies in the teaching of history. The three leading articles are by Messrs. McCollum, Myers, and Sackett. They have the following titles which suggest the nature of their contents: "A Study of the Attainments of Pupils in United States History," "Delayed Recall in American History," and "A Scale in Ancient History." There is also a short article on recent publications in history by the editor, Professor J. C. Bell. The articles by Messrs. McCollum and Sackett represent good beginnings in the matter of tests in history. To the writer's knowledge this is the only published material in the field of history tests.

Three pamphlets should be mentioned before closing this discussion. The first is the report of a study made at the University of Illinois by Professors Bagley and Rugg.[1] In a pamphlet of 59 pages they report the results of a study of twenty-three texts in United States history for Grades VII and VIII. The results are very useful to one who desires to know what such texts have been emphasizing during the past fifty years. The chapter on "The Hall of Fame" is an illuminating one, showing what historical personages have received the most attention from the authors of the texts examined.

Ginn & Company recently published a pamphlet containing certain papers previously collated and issued by the Association of History Teachers of the Middle States and Maryland. The pamphlet contains several papers on the general topic "History Teachers for Secondary Schools." Persons interested in the topic will be glad to get the material in the convenient form in which it now exists.

The College Entrance Examination Board have done service to history teachers in publishing specimen answers in history.[2] It will be of considerable help to teachers preparing students for these examinations to see the good and bad papers which this pamphlet contains. Two papers as they were actually written in ancient, mediaeval, modern, English, and American history appear in the pamphlet. One of these papers in each field received a high grade and the other one a low grade, the reasons for which the reader cannot always see.

It should be said in closing this brief review of the literature relating to history and to the teaching of high-school history that the material appearing from month to month in the *History Teachers' Magazine*[3] has been purposely omitted. It goes without saying that the material in this magazine deals with the teaching of history, and therefore needs no statement to this effect in a review of this type.

[1] W. C. Bagley and H. O. Rugg, *The Content of American History as Taught in the Seventh and Eighth Grades.* Bulletin No. 16, University of Illinois, Urbana, Ill.

[2] *Specimen Answers of College Candidates in History.* New York: College Entrance Examination Board, 1916. Price 25 cents a copy.

[3] Editor, A. E. McKinley, Philadelphia, Pa.

II. COMMENT ON CURRENT EDUCATIONAL WRITINGS

A. AN IMPORTANT BOOK ON THE TEACHING OF HIGH-SCHOOL SCIENCE

The traditional organization of a textbook on the teaching of a subject of study generally includes a formal discussion of the historical development of the subject in question; the values and place of the subject in the curriculum; a conventional classification of the subject-matter; and an orthodox presentation of accepted methods of the teaching (for example, inductive, deductive, etc.). The latter are ordinarily described in such general terms that no one but the most experienced teacher can translate the general laws and principles (which have been taken bodily from abstract treatises on psychology) into concrete classroom instruction. A second method involves the mastery, on the part of the author, of established principles of psychology concerning the mental processes involved in the learning of the subject in question. It involves, also, making a very definite and clearly expressed application of these principles to the specific problems of teaching the subject. In the past neither our courses in educational psychology nor special methods of teaching the different subjects have done this. It is with a feeling that we are entering at last on an intelligent use of the best results of psychological analysis of the learning process that we review Professor Twiss's new book *Principles of Science Teaching*.[1] The book is "aimed right" because it is built on an analysis of "thinking" as concerns scientific material and is not primarily a book which emphasizes the content of scientific subject-matter itself. The author is evidently vitally interested in the mental activity that children exhibit in studying scientific subjects rather than in an adult logical presentation of the subject-matter based on an academic point of view. The author's experience in school work confirms this conclusion, he himself having been a science teacher, author of textbooks and laboratory manuals in physics, and more recently a professor of education. For example, chapter iii, entitled "The Genesis of Science," is a very good elementary discussion of the development of modes of thinking in which are contrasted elementary, empirical, and animal types of learning with adult, human, constructive ways of thinking. The stress that he lays upon the learning process in connection with instruction in science is an outstanding characteristic of the first half of his book. Again, in chapter iv the mental processes of children as the crux of the teaching problem and their study in relation to the problems of science are taken up step by step. The book is significant in that it carries over to the teacher clearly a sound application of the psychology of "generalization." For example, this statement typifies the attitude of the author toward methods of teaching: "The teacher should constantly be aware that a general statement means nothing to anyone unless

[1] G. R. Twiss, *Principles of Science Teaching*. New York: Macmillan, 1917. Pp. xxvi+486.

it serves to call up in his mind a large number of images and memories of particular, concrete facts that are included under it and that have been repeatedly associated with it and with one another."

While the book cannot be said to include a detailed manual of method with its larger function of presenting the principles of science-teaching, yet it contains detailed illustrative lessons, verbatim accounts of "class conferences," "assignments," problems, laboratory exercises, etc. In his discussion of methods the Herbartian "five steps" are used as a guide for the discussion, but are made very real in the attempt to teach the proper steps in effective classroom work. The extent to which the author has psychologized the teaching of science is indicated again by the detailed and analytical discussion of aims and outcomes of instruction in science in chapter vi. In chapter vii we have the first sound attempt to apply the consensus of psychological judgment derived from experimentation on the transfer of training to sound practical directions for teaching pupils the ability to generalize. For example, we find this:

> 1. Training in one kind of activity may improve ability in other kinds of activity when the former has elements of content or elements of method in common with the latter.
>
> 2. Therefore the highest disciplinary value for general, non-technical education is to be found in the studies and activities that have the maximum of elements of content and elements of method that are common to the greatest number of essential or important life-activities, both individual and social.

The chapter throughout avoids controversial debate over the issue of general training and seeks to put in the hands of the teacher a tool which will enable him to make use in the field of science of that great opportunity for the generalization of experience in the solution of problems. Succeeding chapters of the book apply specifically the principles laid down in the first part to classroom and laboratory instruction, lecture demonstrations, and review lessons. A brief discussion is given of each of the sciences, a larger amount of space being devoted to physics and chemistry than to biology, geology, or general science. The book contains excellently organized bibliographies and detailed instructions concerning the selection and purchase of equipment, fulfilling in this way the function of a teaching manual. The last chapter presents briefly and very inadequately the problem of testing the results of instruction. To sum up the work, we have no hesitation in saying that no teacher of science should be without this new textbook.

B. A NEW BOOK SUMMARIZING EDUCATIONAL MEASUREMENTS

The measuring movement in education has developed a voluminous literature. Recently school men have felt the need for a systematic organization of the tests and scales which have come from the activity of the measures.

During the last year several rather complete annotated bibliographies have been published and two textbooks have come out. The editor has criticized the latter on the following counts: (1) they have not selected the best representative scales and standard tests to put before teachers; (2) they have included almost no evaluation of the tests; (3) they have not shown how they can be used to improve teaching in a definite way; and (4) they have not supplied school people with complete bibliographies of the tests and scales that are available. *Educational Tests and Measurements* by Monroe, De Voss, and Kelly[1] we recognize to be an improvement on the two previous textbooks. It is a brief textbook which aims to place in the hands of school teachers and administrative officers a summary of the tests and scales which have been published up to the present time in each of the elementary and high-school subjects of study. A brief chapter is given on the inaccuracy of present school marks to introduce the need for quantitative measurement in school practice. Following this the tests are presented in the next six chapters by subjects—arithmetic, reading, spelling, handwriting, language, and the high-school subjects.

The material is organized in each chapter under a fourfold scheme: (1) A brief discussion of the problem of testing abilities in the subject of study in question. This on the whole is very brief and hardly an adequate analytical treatment of that problem. (2) The presentation of each of the standardized tests and scales which has appeared for the measurement of abilities in that subject. It should be pointed out that no detailed principles are laid down for the critical evaluation of the scales in question. Neither do the authors make such critical evaluation, the presentation aiming to be informational only. This aim is carried out to the extent that a non-technical presentation is given of each of the tests. The authors do not reprint the scales and tests in full, but select typical portions to illustrate what has been done, referring the reader to the printed test or scale which he can secure if he desires. (3) Standard scores which have been set up as a result of the use of the tests and scales in each subject are summarized. This portion of the work places in the hands of the reader a fairly good summary, in condensed form, of the published standards. (4) A section is included in each chapter which discusses how to use the results of measurement. This cannot be said to be an intensive psychological discussion, but goes so far as to point out established "laws" of habit formation, memory, etc., with an elementary treatment of the application of these laws to instruction. The authors, however, make very little psychological analysis of the learning process in each of the different subjects. The book provides the reader with very complete bibliographies and on the whole will fill a need which has been experienced by school men recently for a fairly complete compilation of the tests which are now available.

[1] W. S. Monroe, J. C. De Voss, and F. J. Kelly, *Educational Tests and Measurements*. Boston: Houghton Mifflin Co., 1917. Pp. xxii+309. $1.50.

III. BRIEF DESCRIPTIVE STATEMENTS OF TWO NEW PUBLICATIONS

1. RUGG, H. O. *Statistical Methods Applied to Education.* Boston: Houghton Mifflin Co., 1917. Pp. xiv+426. $2.00.
[To be reviewed in next issue.]

A complete textbook for students of education, superintendents, and teachers untrained in mathematics, of the methods of treating numerical data collected on school problems. A carefully graded discussion showing the lay reader the use of statistical methods in education, the collection and tabulation of data, the derivation, computation, and interpretation of each of the methods now used in the study of school problems: the frequency distribution, averages, measures of variability, ideal curves and their use, measures of relationship. The use of statistical methods in reporting school facts discussed in detail.

---

2. RUGG, H. O. *Illustrative Problems in Educational Statistics.* Paper. 35 problems. Published and distributed by the author, School of Education, University of Chicago. $0.60.

A book of statistical problems designed to accompany the author's textbook. For administrative officers and teachers as well as for formal class use in normal schools and schools of education. Provides opportunity for practice in working problems which involve each of the statistical methods now used by school men.

IV. CURRENT EDUCATIONAL PUBLICATIONS RECEIVED IN SEPTEMBER

(Detailed discussions of some of the following books will appear later.)

A. GENERAL EDUCATIONAL THEORY AND PRACTICE

DE HOVRE, FR. *German and English Education. A Comparative Study.* New York: Scribner, 1917. Pp. 108.

DIFFENDORFER, RALPH E. *Missionary Education in Home and School.* New York: Abingdon Press, 1917. Pp. 407. $1.50.

GORDON, KATE. *Educational Psychology.* New York: Henry Holt & Co., 1917. Pp. vi+294.

MEAD, CYRUS D. *An Experiment in the Fundamentals.* Yonkers-on-Hudson: World Book Co., 1917. Paper. Pp. xiv+54.

REED, ANNA Y. *Newsboy Service. A Study in Educational and Vocational Guidance.* Yonkers-on-Hudson: World Book Co., 1917. Paper. Pp. xxviii+175. $0.60.

SMITH, HENRY LESTER. *A Survey of a Public School System.* New York: Teachers College, Columbia University, 1917. Pp. xii+304.

SNEDDEN, DAVID. *Educational Sociology. A Digest and Syllabus. Part I: Introduction.* New York: Teachers College, Columbia University, 1917. Paper. Pp. 38. $0.55.

SNEDDEN, DAVID. *Educational Sociology. A Digest and Syllabus. Part II: Applications to Curricula and Studies.* New York: Teachers College, Columbia University, 1917. Paper. Pp. 70. $0.80.

TEACHERS OF THE HORACE MANN ELEMENTARY SCHOOL. *The Curriculum of the Horace Mann Elementary School.* New York: Teachers College, Columbia University, 1917. Paper. Pp. iv+138.

THEISEN, WILLIAM WALTER. *The City Superintendent and the Board of Education.* New York: Teachers College, Columbia University, 1917. Pp. ix+137.

WINCHESTER, BENJAMIN S. *Religious Education and Democracy.* New York: Abingdon Press, 1917. Pp. 293.

B. PUBLICATIONS OF UNITED STATES BUREAU OF EDUCATION

HOSIC, JAMES FLEMING. *Reorganization of English in Secondary Schools.* Washington: Government Printing Office, 1917. Pp. 181.

JESIEN, W. S. *Military Training.* Washington: Government Printing Office, 1917. Pp. 35.

JONES, THOMAS JESSE. *Negro Education. A Study of the Private and Higher Schools for Colored People in the United States.* Vol. I, No. 38; Vol. II, No. 39. Washington: Government Printing Office, 1917. Pp. xiv+423 and v+724.

LYFORD, CARRIE ALBERTA. *Three Short Courses in Home Making.* Washington: Government Printing Office, 1917. Pp. 104.

NORTON, HELEN RICH. *Department-Store Education.* Washington: Government Printing Office, 1917. Pp. 79.

PERRY, CLARENCE ARTHUR. *School Extension Statistics.* Washington: Government Printing Office, 1917. Paper. Pp. 30.

SWIGGETT, GLEN LEVIN. *The Conference on Training for Foreign Service.* Washington: Government Printing Office, 1917. Pp. 67.

Ten Lessons on Food Conservation. United States Food Administration. Washington: Government Printing Office, August 1, 1917. Paper. Pp. 64.

C. TEXTBOOKS FOR THE ELEMENTARY GRADES

CHAPLIN, ALETHEA. *A Treasury of Fairy Tales.* New York: Thomas Y. Crowell Co. Illustrated. 12mo, pp. 129. $0.50.

Contents: "Babes in the Wood," "Puss in Boots," "Red Riding Hood," and other stories.

CORY, DAVID. *The Adventures of Puss in Boots, Jr.* New York: Harper, 1917. Pp. 149. $0.50.

GASK, LILIAN. *A Treasury of Folk Tales.* New York: Thomas Y. Crowell Co. Illustrated. 12mo, pp. 123. $0.50.

Contents: "The Golden Fish" (Russian), "The Two Brothers" (Slovak), and others.

HARRIS, ADA VAN STONE, and WALDO, LILLIAN MCLEAN. *Number Games for Primary Grades.* Chicago: Beckley-Cardy Co. Pp. 123. $0.60.

Kipling Stories and Poems Every Child Should Know. Book I. Edited by MARY E. BURT and W. T. CHAPIN. Boston: Houghton Mifflin Co. Pp. vi+142. $0.44.

MEYER, ZOE. *The Outdoor Book.* For second school year. Boston: Little, Brown & Co., 1917. Illustrated. Pp. vii+123. $0.40.

PELLETT, FRANK C. *Our Backdoor Neighbors.* New York: Abingdon Press, 1917. Photographics from life by the author. Pp. 209.

Intimate stories from out of doors designed to convey knowledge of wild creatures and to develop a more sympathetic relationship with them.

PERKINS, LUCY FITCH. *The Dutch Twins Primer.* Boston: Houghton Mifflin Co., 1917. Pp. 108. $0.44.

PORTOR, LAURA SPENCER. *The Story of the Little Angels.* New York: Harper, 1917. Pp. 95. $0.50.

SETON, ERNEST THOMPSON. *Wild Animal Ways.* Boston: Houghton Mifflin Co., 1916. Illustrated. Pp. vii+140. $0.60.

SINDELAR, JOSEPH C. *Nixie Bunny in Faraway-Lands.* Chicago: Beckley-Cardy Co., 1917. Illustrated. Pp. 160. $0.45.

Life in other lands told for girls and boys by the Cottontails. Suitable for second and third school years.

SMITH, SCHUCKAI, and Others. *New Common-School Song Book.* Chicago: Beckley-Cardy Co., 1917. Pp. 174. $0.40.

TAPPAN, EVA MARCH. *The Little Book of the Flag.* Boston: Houghton Mifflin Co., 1917. Pp. v+122. $0.40.

THOMPSON, JOHN STUART. *Fil and Filippa.* New York: Macmillan, 1917. Illustrated. Pp. viii+75. $0.40.

Life in the Philippine Islands delightfully told for girls and boys.

WASHINGTON, BOOKER T. *Up from Slavery.* Boston: Houghton Mifflin Co., 1901. Pp. ix+330. $0.60.

D. TEXTBOOKS FOR THE HIGH SCHOOL

BRESLICH, ERNST R. *Third-Year Mathematics for Secondary Schools.* Without tables. Chicago: The University of Chicago Press, 1917. Pp. xviii+369. $1.00.

BRESLICH, ERNST R. *Logarithmic and Trigonometric Tables and Mathematical Formulas.* Chicago: The University of Chicago Press, 1917. Pp. xvii+118. $0.75.

BROOKE, TUCKER. *The Yale Shakespeare. Much Ado about Nothing.* New Haven: Yale University Press, 1917. Pp. 138. $0.50.

CAMPBELL, OSCAR JAMES, and RICE, RICHARD ASHLEY. *A Book of Narratives.* Boston, New York, Chicago: D. C. Heath & Co., 1917. Pp. vi+497.

D'OOGE, BENJAMIN L., and EASTMAN, FREDERICK C. *Caesar in Gaul.* Boston: Ginn & Co., Illustrated. 12mo, pp. xl+120. $1.40.

Commences with a biography of Caesar in simple Latin, thus adequately reviewing the work of the first year. Then follow the first four books of the *Gallic War.* Interspersed throughout are reliable maps and battle plans, attractive illustrations, notes, and explanatory helps.

FUENTES, VENTURA, and FRANCOIS, VICTOR E. *A Trip to Latin America.* New York: Henry Holt & Co., 1917. Pp. x+196.

Industries, short biographies, great deeds, in simple Spanish, with exercises, notes, etc., for the English student.

HOLMES, HENRY W., and GALLAGHER, OSCAR C. *Composition and Rhetoric.* New York: D. Appleton & Co., 1917. Pp. xi+353.

From the point of view that while few high-school pupils will ultimately become authors, all must write and speak English in the work of every day.

PAYNE, L. W. *American Literary Readings.* Chicago: Rand McNally & Co., 1917. Pp. xviii+647. $1.40.

Selections from the best writings of twenty-three American masters of literature.

PAYNE, L. W. *Learn to Spell.* A high-school and college book. Chicago: Rand McNally & Co., 1916. Pp. 144. $0.40.

POTTINGER, DAVID T. (Editor). *English Essays.* New York: Macmillan, 1917. Pp. xxi+331. $0.25.

Bacon, Addison, Goldsmith, Stevenson, Emerson, and others.

ROBESON, F. E. *Précis Writing, A Progressive Course of,* pp. 145; *Historical Passages for,* pp. 118. New York: Oxford University Press, American Branch, 1917.

SKINNER, ERNEST BROWN. *College Algebra.* New York: Macmillan, 1917. Pp. 263.

The Yale Shakespeare. Romeo and Juliet. Edited by WILLARD H. DURHAM. New Haven: Yale University Press, 1917. Pp. 144. $0.50.

TANNER, W. M. *Essays and Essay Writing.* Boston: Atlantic Monthly, 1917. Pp. xxv+307. $0.85.

THOMPSON, CHARLES MANFRED. *History of the United States.* Chicago: Benj. H. Sanborn & Co., 1917. Pp. xx+540.

WEBSTER, HUTTON. *Readings in Medieval and Modern History.* Boston: D. C. Heath & Co., 1917. Pp. x+388.

Supplementary readings, chiefly biographical or narrative in character, for high-school students of mediaeval and modern history.

E. MISCELLANEOUS PUBLICATIONS

BARCLAY, WADE CRAWFORD; BROWN, ARLO A.; SHERIDAN, ALMA S.; THOMPSON, WILLIAM J.; and SHERIDAN, HAROLD J. *Life in the Making.* New York: Methodist Book Concern, 1917. Pp. 236. $0.60.

BUTLER, NICHOLAS MURRAY. *A World in Ferment. Interpretations of the War for a New World.* New York: Scribner, 1917. Pp. 254.

FOERSTER, NORMAN, and PIERSON, W. W., JR. *American Ideals.* Boston: Houghton Mifflin Co., 1917. Pp. 326.

A series of essays, addresses, and state papers which express, from the point of view of American statesmen and men of letters, American ideals past and present.

JONES, GEORGE ELLIS. *Hygiene and War.* Carnegie Endowment for International Peace. Division of Intercourse and Education. Publication No. 11. Washington: Carnegie Endowment, 1917. Paper. Pp. 207.